

Everyday Mathematics[®]

Student Math Journal 1

**The University of Chicago
School Mathematics Project**



Columbus, OH • Chicago, IL • Redmond, WA

UCSMP Elementary Materials Component

Max Bell, Director

Authors

Max Bell

Jean Bell

John Bretzlauf*

Amy Dillard*

Robert Hartfield

Andy Isaacs*

James McBride, Director

Kathleen Pitvorec*

Peter Saecker

Technical Art

Diana Barrie*

**Second Edition only*

Photo Credits

Phil Martin/Photography, Jack Demuth/Photography, Cover Credits: Sand, starfish, orange wedges, crystal/Bill Burlingham Photography, Photo Collage: Herman Adler Design Group

www.sra4kids.com



Copyright © 2004 by SRA/McGraw-Hill.

All rights reserved. Except as permitted under the United States Copyright Act, no part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of the publisher, unless otherwise indicated.

Send all inquiries to:
SRA/McGraw-Hill
P.O. Box 812960
Chicago, IL 60681

Printed in the United States of America.

ISBN 0-07-584483-4

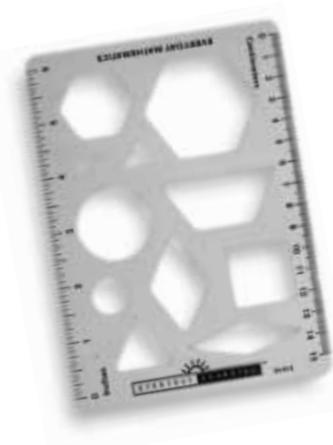
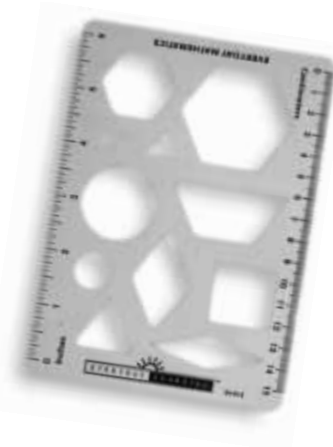
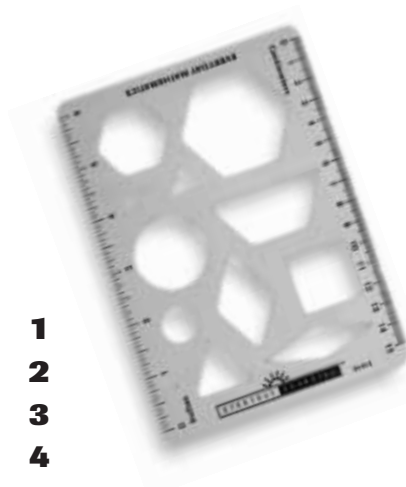
1 2 3 4 5 6 7 8 9 DBH 07 06 05 04 03 02

Contents

Unit 1: Routines, Review, and Assessments

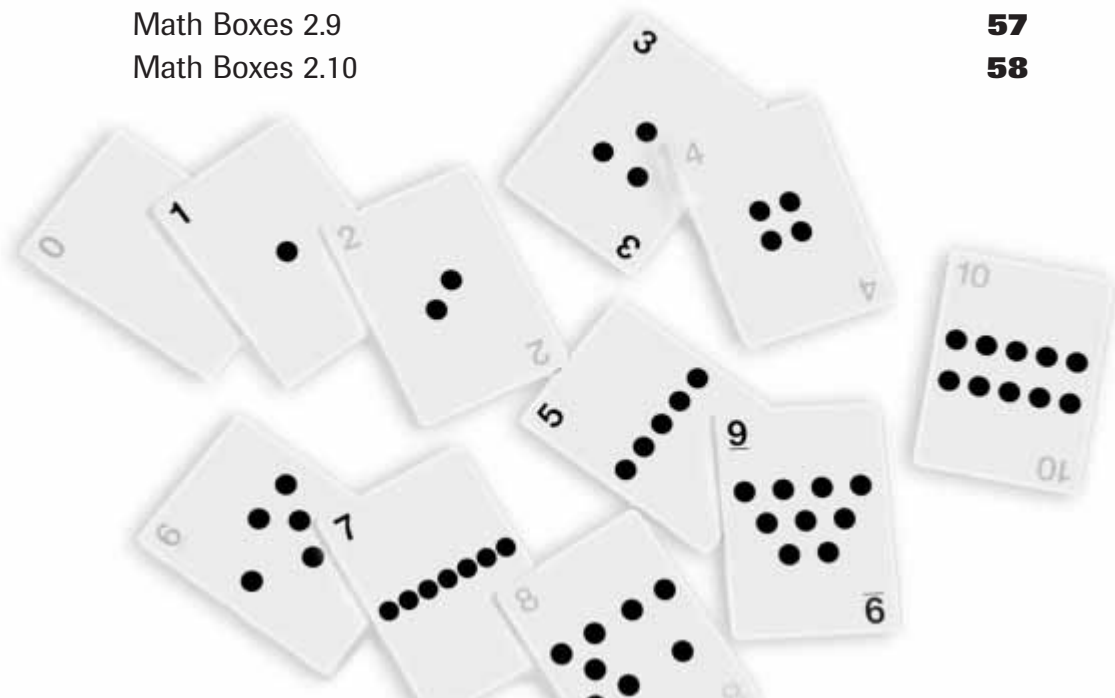
A Numbers Hunt	1
Number-Grid Puzzles	2
Looking Up Information	3
Using Mathematical Tools	4
Math Boxes 1.5	5
Displaying Data	6
Name-Collection Boxes	8
Math Boxes 1.6	9
Finding Differences	10
Skip Counting on the Number Grid	11
Math Boxes 1.7	12
Using a Calculator	13
Math Boxes 1.8	14
Using Coins	15
Math Boxes 1.9	17
A Shopping Trip	18
Coin Collections	19
Math Boxes 1.10	20
Frames and Arrows	21
Patterns	22
<i>Tic-Tac-Toe Addition</i>	23
Math Boxes 1.11	24
Math Boxes 1.12	25
Finding Elapsed Times	26
Math Boxes 1.13	27

A note at the bottom of each journal page indicates when that page is first used. Some pages will be used again during the course of the year.



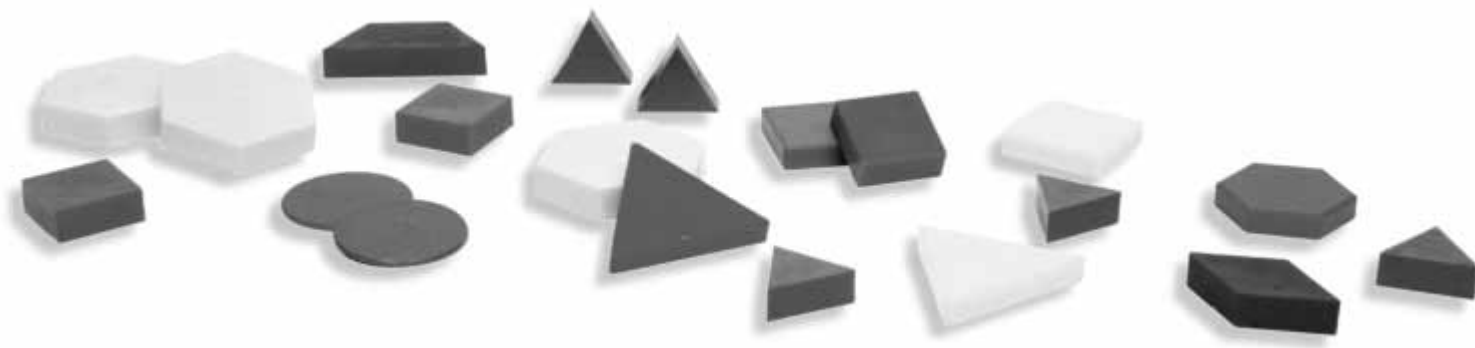
Unit 2: Adding and Subtracting Whole Numbers

Math Boxes 2.1	28
Fact Families and Number Families	29
Name-Collection Boxes	30
Using Basic Facts to Solve Fact Extensions	31
Math Boxes 2.2	32
Math Boxes 2.3	33
“What’s My Rule?”	34
Fact Families and Number Families	35
Number Stories: Animal Clutches	36
“What’s My Rule?”	38
Math Boxes 2.4	39
Number Stories: Change-to-More and Change-to-Less	40
Parts-and-Total Number Stories	42
Math Boxes 2.5	43
Temperature Differences	44
Math Boxes 2.6	45
The Partial-Sums Addition Method	46
Change-to-More and Change-to-Less Number Stories	48
Math Boxes 2.7	49
The Trade-First Subtraction Method	50
Addition Strategies	52
Math Boxes 2.8	53
Number Stories with Three or More Addends	54
Subtraction Strategies	56
Math Boxes 2.9	57
Math Boxes 2.10	58



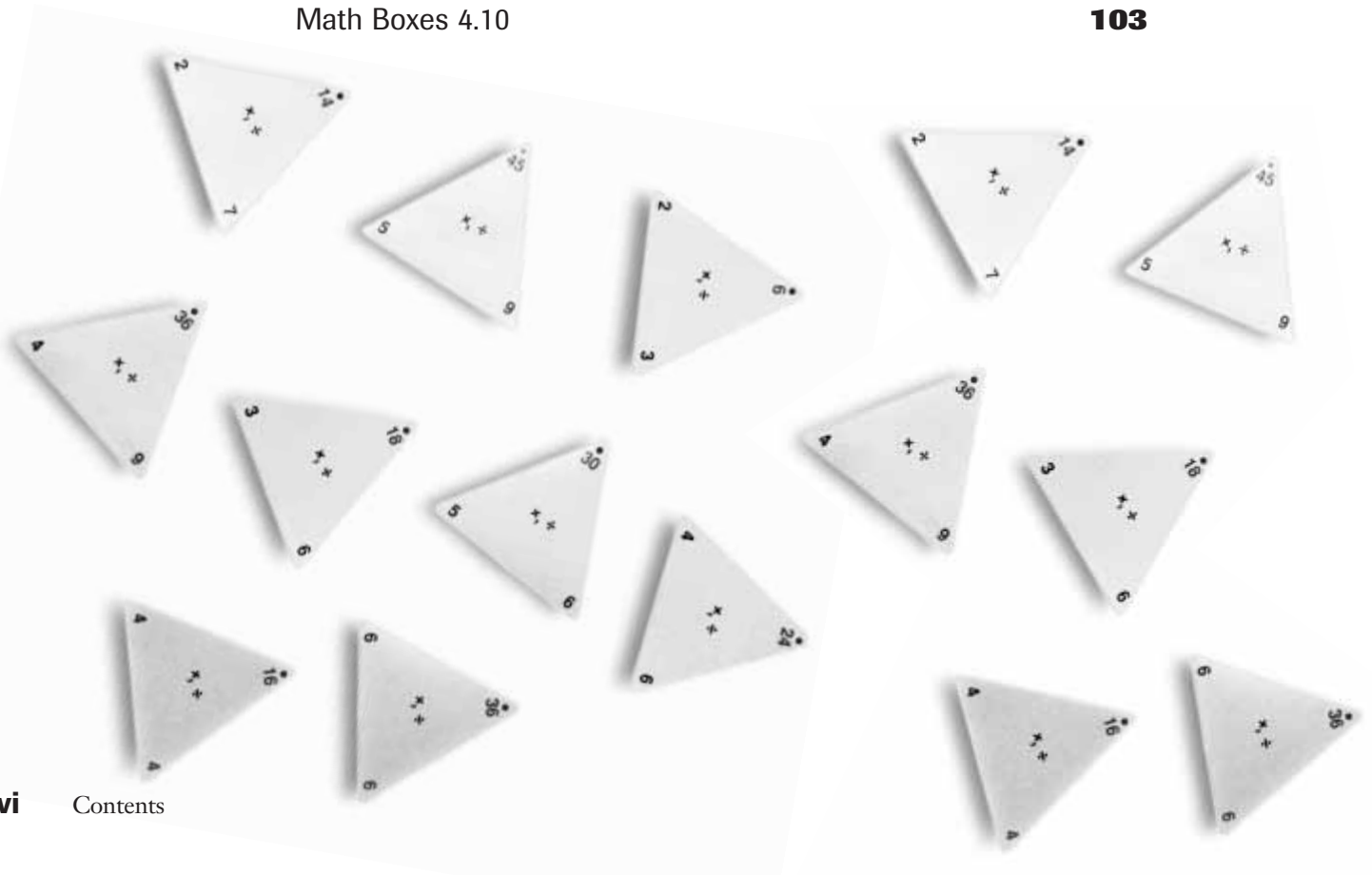
Unit 3: Linear Measures and Area

Estimating and Measuring Lengths	59
Addition and Subtraction Practice	60
Math Boxes 3.1	61
Measuring Line Segments	62
Math Boxes 3.2	63
Body Measures	64
Estimating Lengths	65
Math Boxes 3.3	66
Perimeters of Polygons	67
Measures Hunt	68
Math Boxes 3.4	69
Math Boxes 3.5	70
Geoboard Perimeters	71
Tiling with Pattern Blocks	72
Straw Triangles	74
Areas of Rectangles	75
Math Boxes 3.6	76
More Areas of Rectangles	77
Math Boxes 3.7	78
Diameters and Circumferences	79
Math Boxes 3.8	80
Units of Linear Measure	81
Math Boxes 3.9	82



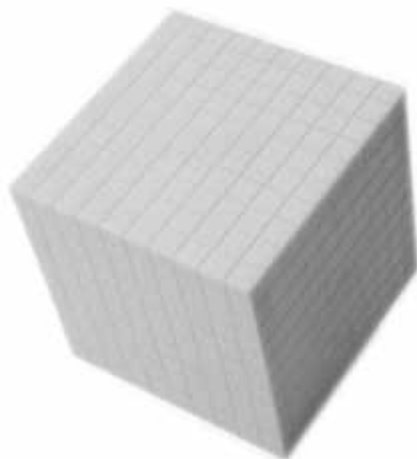
Unit 4: Multiplication and Division

Solving Multiplication Number Stories	83
Writing Multiplication Number Stories	84
Measuring Line Segments	85
Math Boxes 4.1	86
More Multiplication Number Stories	87
Perimeter	88
Math Boxes 4.2	89
Division Practice	90
Math Boxes 4.3	91
Solving Multiplication and Division Number Stories	92
Math Boxes 4.4	93
Math Boxes 4.5	94
Math Boxes 4.6	95
Math Boxes 4.7	96
How Many Dots?	97
Setting Up Chairs	98
Math Boxes 4.8	99
Estimating Distances	100
A Pretend Trip	101
Math Boxes 4.9	102
Math Boxes 4.10	103



Unit 5: Place Value in Whole Numbers and Decimals

Place-Value Review	104
Math Boxes 5.1	105
Math Boxes 5.2	106
Math Boxes 5.3	107
Working with Populations	108
Math Boxes 5.4	109
How Old Am I?	110
Math Boxes 5.5	111
Finding the Value of Base-10 Blocks Squares, Rectangles, and Triangles	112
Pattern-Block Perimeters	113
Math Boxes 5.6	114
Place Value in Decimals	115
Math Boxes 5.7	116
Exploring Decimals	118
Math Boxes 5.8	119
Decimals for Metric Measurements	120
Math Boxes 5.9	121
How Wet? How Dry?	122
Math Boxes 5.10	123
More Decimals	124
Math Boxes 5.11	125
Math Boxes 5.12	126
Math Boxes 5.13	127
	128



Unit 6: Geometry

Line Segments, Rays, and Lines	129
Math Boxes 6.1	130
Geometry Hunt	131
Math Boxes 6.2	132
Turns	133
Math Boxes 6.3	134
Triangle Explorations	135
Math Boxes 6.4	136
Quadrangle Explorations	137
Math Boxes 6.5	138
Polygon Explorations	139
Math Boxes 6.6	141
Drawing Angles	142
Math Boxes 6.7	143
Marking Angle Measures	144
Measuring Angles	145
Math Boxes 6.8	146
Symmetric Shapes	147
Math Boxes 6.9	148
Math Boxes 6.10	149
Base-10 Block Decimal Designs	150
10×10 Grids	151
Symmetry	152
Math Boxes 6.11	153
Pattern-Block Prisms	154
Math Boxes 6.12	155
Math Boxes 6.13	156
Special Pages	157
Sunrise and Sunset Record	158
Length of Day Graph	159
National High/Low Temperatures Project	160

Activity Sheets

Paper Clock	Activity Sheet 1
Rulers	Activity Sheet 2
Multiplication/Division Fact Triangles 1	Activity Sheet 3
Multiplication/Division Fact Triangles 2	Activity Sheet 4

A Numbers Hunt

Look for numbers in your classroom. Write the numbers in the table. Look for numbers that you cannot “see” but you can find by counting or measuring. Record these numbers, too.

Number	Unit (if there is one)	What does the number mean?	How did you find the number? (count, measure, another way?)
<i>Example: 16</i>	<i>Crayons</i>	<i>Tells how many crayons are in a box</i>	<i>Number is on the box</i>
<i>Example: 30</i>	<i>Inches</i>	<i>Height of my desk</i>	<i>Measured my desk</i>

Number-Grid Puzzles

1. Complete the grid.

541			544					550
551		553			556		559	
	562			565				570
			574			577		
581				585			588	
		593						599
	602				606			
			614					620

Fill in the missing numbers.

2.

	69
78	

3.

	317	

4.

	54	

5.

		700

6.

299	

7.

211		

Make up your own puzzles. Ask someone to solve them.

8.

9.

Looking up Information

Math Message

1. Turn to page 270 in your *Student Reference Book*.

How many yards are there in 1 mile? _____ yards

Work with a partner. Use your *Student Reference Book* for Questions 3–6.

2. Write your partner's first name. _____

Write your partner's last name. _____

3. Look up the word **circumference** in the Glossary. Copy the definition.

4. Read the essay "Tally Charts."

- a. Then solve the Check Your Understanding problems.

Problem 1: _____

Problem 2: _____

- b. Check your answers in the Answer Key.

- c. Describe what you did to find the essay.

5. Find the Measurement section. Which of the following units of length is about the same length as a person's height? _____

a. yard **b.** thumb **c.** fathom **d.** cubit **e.** hand **f.** foot

On which page did you find the answer? _____

6. Look up the rules of the game *Less Than You!* Play the game with your partner.

Using Mathematical Tools

In Problems 1 and 2, record the time shown on the clocks. In Problem 3, draw the minute hand and the hour hand to show the time.

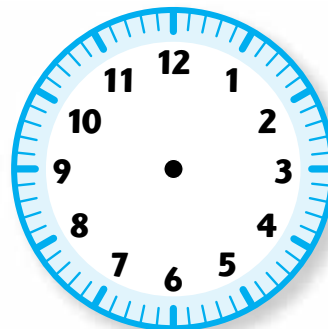
1.



2.



3.



6:10

Use your ruler.

4. Measure the line segment. about _____ inches

5. Draw a line segment 10 centimeters long.

Use your calculator to do these problems.

6. $23,573 + 859 + 6,051 =$ _____

7. $20,748 - 8,967 =$ _____

8. $466 \times 38 =$ _____

9. $1,978 \div 23 =$ _____

Use your Pattern-Block Template to draw the following shapes:

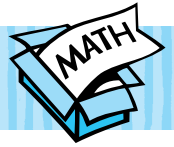
10. a rhombus

11. a hexagon

12. a trapezoid

Challenge

13. Which of the shapes in Problems 10–12 are quadrangles?



Math Boxes 1.5

1. What is today's date?

What will be the date in 6 days?

What will be the date in 1 week?

2. Fill in the missing numbers.

	174	
	205	



3. Write the number that is 10 more.

42 _____

160 _____

901 _____

Write the number that is 10 less.

59 _____

120 _____



4. Count back by 3s.

42, _____, _____, 33,

_____, _____, _____, _____,

_____, _____, _____, _____,

_____, _____

5. About what time is it?



6. Add.

$$9 + 0 = \underline{\hspace{2cm}}$$

$$1 + 7 = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} = 2 + 5$$

$$\underline{\hspace{2cm}} = 4 + 4$$

$$7 + 7 = \underline{\hspace{2cm}}$$



Displaying Data

- How many first names are there? _____
- How many last names are there? _____
- With which names will you work—first names or last names? _____
- Make a tally chart for your set of names.

_____ Names	
Number of Letters	Number of Children
2	
3	
4	
5	
6	
7	
8	
9	
10 or more	

- How many letters does the longest name have? _____ letters
The number of letters in the longest name is called the **maximum**.
- How many letters does the shortest name have? _____ letters
The number of letters in the shortest name is called the **minimum**.
- What is the **range** of the numbers of letters? _____ letters
(*Hint: If you don't remember what the range is, look it up in your *Student Reference Book*.*)

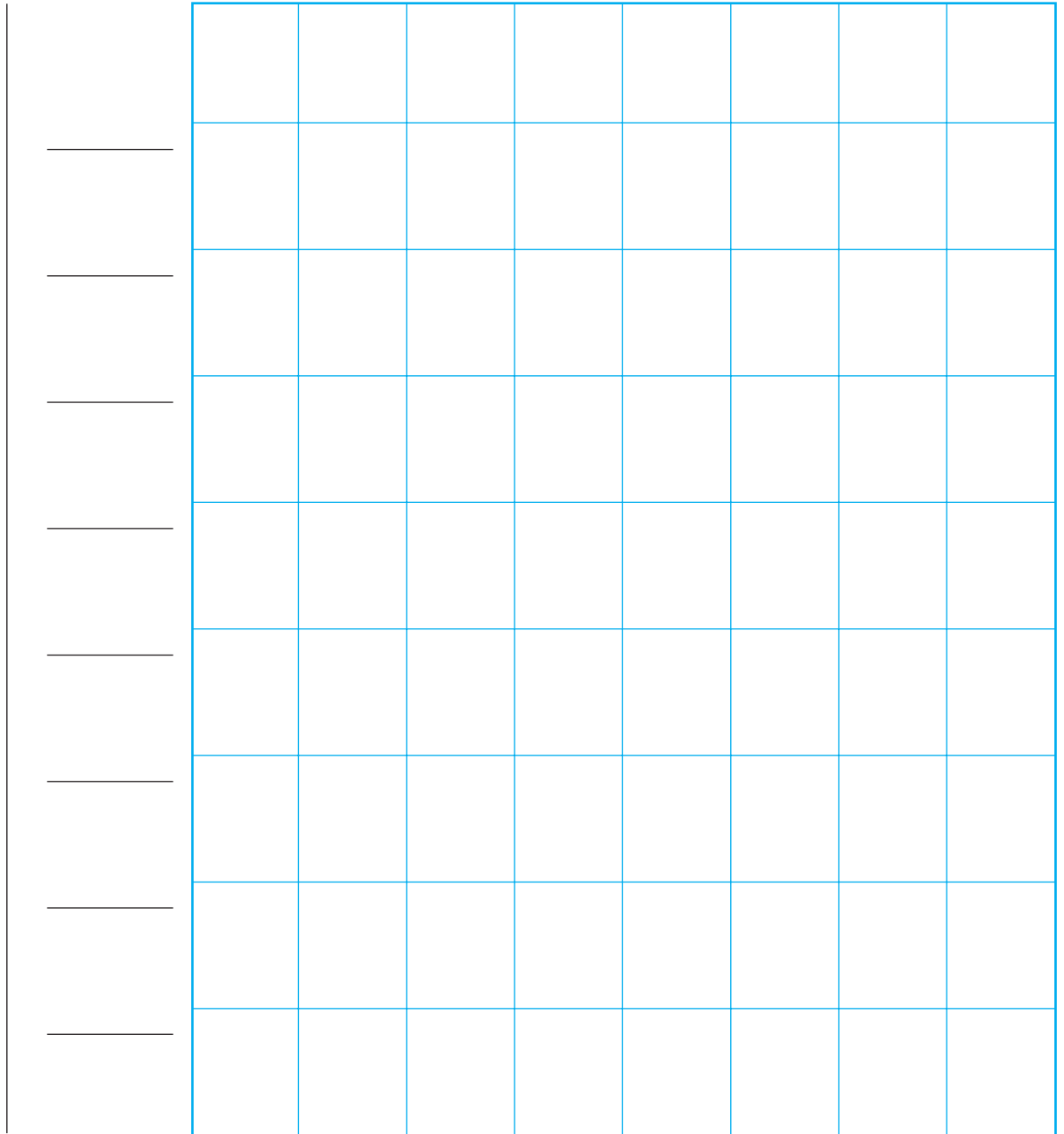
Challenge

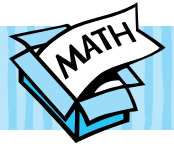
- What is the **mode** of the set of data? _____ letters

Displaying Data (cont.)

9. Make a bar graph for your set of data.

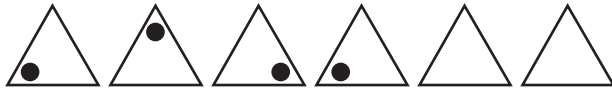
Title: _____





Math Boxes 1.6

1. Complete the pattern.



2. 6,347

What value does the 6 have? _____

What value does the 7 have? _____

What value does the 3 have? _____

What value does the 4 have? _____



3. Use P , N , D , and Q .
Show \$0.89 in two ways.



4. How many trees have exactly 6 bugs? _____
How many trees have exactly 3 bugs? _____

Number of Bugs per Tree	Number of Trees
2	//
3	/
4	////
5	/
6	//



5. Count by 10s.

23, _____, _____, 53,

_____, _____, _____, _____,

_____, _____, _____, _____,

6. Add.

$$4 + 8 = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} = 9 + 2$$

$$4 + 3 = \underline{\hspace{2cm}}$$

$$5 + 5 = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} = 8 + 8$$



Finding Differences

									0
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110

Use the number grid to help you solve these problems.

- Which is less, 83 or 43? _____ How much less? _____
- Which is less, 33 or 78? _____ How much less? _____
- Which is more, 90 or 55? _____ How much more? _____
- Which is more, 44 or 52? _____ How much more? _____

Find the **difference** between each pair of numbers.

- 71 and 92 _____
- 26 and 46 _____
- 30 and 62 _____
- 48 and 84 _____
- 43 and 60 _____
- 88 and 110 _____

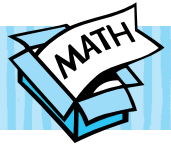
Skip Counting on the Number Grid

1. Start at 0 and count by 4s on the number grid.
Mark an X through each number in your count.
2. Start at 0 again and count by 5s on the number grid.
Draw a circle around each number in your count.

									0
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170
171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199	200

3. List the numbers that are marked with both an X and a circle.

Math Boxes 1.7



1. Write 5 names in the 25-box.

25



2. Fill in the missing numbers.

	352		
		373	



3. Write the number that is 100 more.

16 _____

104 _____

950 _____

Write the number that is 100 less.

249 _____

527 _____



4. Count back by 4s.

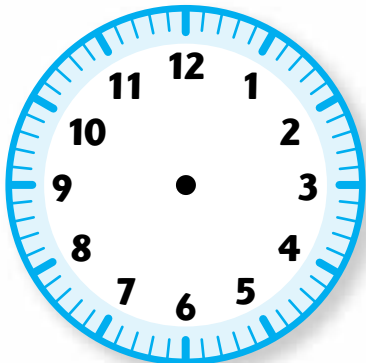
104, _____, _____, _____,

88, _____, _____, _____,

_____, _____, _____, _____,

_____, _____, _____, _____

5. Draw hands on the clock to show 6:45.



6. Add.

$$2 + 8 = \underline{\hspace{2cm}}$$

$$5 + 3 = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} = 6 + 7$$

$$\underline{\hspace{2cm}} = 7 + 9$$

$$5 + 8 = \underline{\hspace{2cm}}$$



Using a Calculator

Math Message

Use your calculator.

1. Sharon read the first 115 pages of her book last week. She read the rest of the book this week. If she read 86 pages this week, how many pages long is her book?

Answer: Her book is _____ pages long.

Number model: _____

2. The paper clip was invented in 1868. The stapler was invented in 1900. How many years after the paper clip was the stapler invented?

Answer: The stapler was invented _____ years later.

Number model: _____

3. $28 + 64 + 39 =$ _____

4. $2,648 - 1,576 =$ _____

Calculator Practice

Use your calculator.

5. Begin at 25. Count up by 6s. Record your counts below.

25 _____

6. Begin at 90. Count back by 9s.

90 _____

Solve the calculator puzzles.

7. Enter Change to How?

42 92 _____

61 11 _____

136 216 _____

78 108 _____

108 88 _____

8. Enter Change to How?

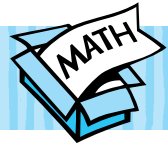
362 862 _____

722 3,722 _____

1,604 804 _____

9,364 9,964 _____

Math Boxes 1.8



1. What is today's date?

What will be the date in 11 days?

What will be the date in 2 weeks?

2. 1,942

What value does the 4 have? _____

What value does the 9 have? _____

What value does the 1 have? _____

What value does the 2 have? _____



3. Use Ⓐ, Ⓑ, Ⓒ, and Ⓓ.

Show \$1.48 in two ways.

4. Find the difference between

74 and 24 _____

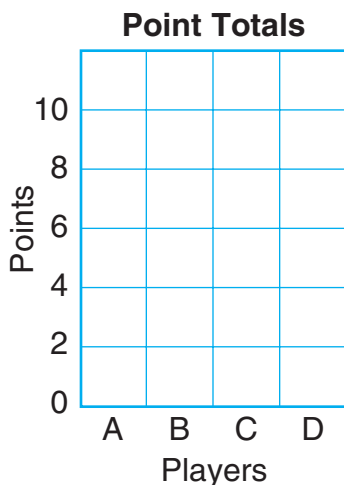
48 and 35 _____

60 and 39 _____

26 and 15 _____



5. Complete the bar graph.



Player A scores 4 points.

Player B scores 8 points.

Player C scores 3 points.

Player D scores 9 points.



6. Add.

$$9 + 5 = \underline{\hspace{2cm}}$$

$$3 + 7 = \underline{\hspace{2cm}}$$

$$5 + 6 = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} = 6 + 8$$

$$\underline{\hspace{2cm}} = 9 + 3$$



Using Coins

Math Message

1. You buy a carton of juice for 65 cents. Show two ways to pay for it with exact change. Draw Ⓟs to show pennies, Ⓝs to show nickels, Ⓓs to show dimes, and Ⓠs to show quarters.

a.

b.

Write each of the following amounts in dollars-and-cents notation.
The first one is done for you.

Example

three dimes and one nickel \$0.35

2. five dimes and seven pennies _____
3. fourteen dimes _____
4. two quarters and four pennies _____
5. three dollars and one nickel and three pennies _____
6. seven dollars and eight dimes _____

Write =, <, or >.

7. three quarters _____ three dimes
8. ten dimes _____ one dollar
9. \$0.67 _____ seven dimes
10. \$1.18 _____ ⓆⓆⓆⓆⓆ
11. ⒹⒹⓃⓃⓃⓅⓅ _____ ⓆⓃⓅ
12. \$2.05 _____ \$2.50

Remember

= means *is equal to*

< means *is less than*

> means *is greater than*

Using Coins (cont.)

13. Circle the digit that represents dimes.

\$ 1 7 . 6 3

14. Circle the digit that represents cents.

\$ 1 8 . 3 8

15. Circle the digit that represents dimes.

3 5 ¢

16. Jean wants to buy a carton of milk for 35¢.

How much change will she get from 2 quarters? _____

Use **Q**, **D**, **N**, and **P** to show her change in two ways.

Challenge

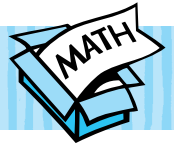
Use the Vending Machine Poster on *Student Reference Book*, page 236.

17. Marcy wants to get a strawberry yogurt drink and a chocolate milk from the vending machine. She has only dollar bills.

a. If the Exact Change light is on, can she buy what she wants? _____

b. If the Exact Change is off, how many dollar bills will she put in the machine? _____

How much change will she get? _____



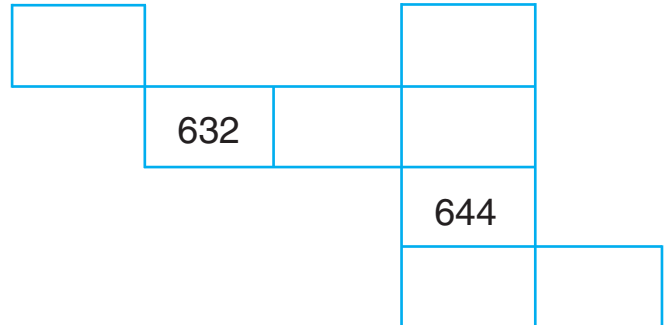
Math Boxes 1.9

1. Write 5 names in the 75-box.

75



2. Fill in the missing numbers.



3. What is 10 more?

614 _____

994 _____

2,462 _____

What is 100 more?

237 _____

3,965 _____



4. Count back.

1,011 , 1,010 , _____ ,

_____ , _____ , _____ ,

_____ , _____ , _____ ,

_____ , _____ , _____ ,

_____ , _____

5. What time does the clock show?



What time will it be in 30 minutes? _____

6. Add.

$$3 + 6 = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} = 5 + 7$$

$$8 + 6 = \underline{\hspace{2cm}}$$

$$9 + 9 = \underline{\hspace{2cm}}$$

$$6 + 4 = \underline{\hspace{2cm}}$$



A Shopping Trip

Use the Stationery Store Poster on *Student Reference Book*, page 238.

- List the items you are buying in the space below. You must buy at least 3 items. You can buy 2 of the same item, but list it twice.

Item	Sale Price
_____	_____
_____	_____
_____	_____

- Estimate how many dollar bills you will need to give the shopkeeper to pay for your items. _____ dollar bills
- Give the shopkeeper the dollar bills.
- The shopkeeper calculates the total cost using a calculator.
You owe \$_____.
- The shopkeeper calculates the change you should be getting. \$_____
- Use Ⓟ, Ⓝ, Ⓓ, Ⓠ, and Ⓢ to show the change you got from the shopkeeper. _____

Challenge

- Henry buys one pack of batteries and a box of crayons. How much money does he save buying them on sale instead of paying the regular price?

Regular Price	Sale Price	Difference
batteries \$_____.	\$_____.	Regular total \$_____.
crayons \$_____.	\$_____.	Sale total \$_____.
Total Cost \$_____.	\$_____.	Amount Saved \$_____.

Coin Collections

Get your coin collection or grab a handful of coins from the classroom collection. Complete the problems below.

1. Count each kind of coin. Give a total value for each type of coin.

_____ Ⓟ = \$ _____ . _____

_____ Ⓝ = \$ _____ . _____

_____ Ⓣ = \$ _____ . _____

_____ Ⓠ = \$ _____ . _____

2. What is the total value of all the coins? You may use a calculator.

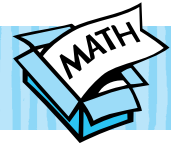
Total value = \$ _____ . _____

3. In the space below, draw a picture of your total. Use as few \$1, Ⓠ, Ⓣ, Ⓝ, and Ⓟ as possible.

Challenge

4. Explain how you would enter your total amount on the calculator.

5. Explain how you would go up to the next dollar amount without clearing your calculator. (*Hint:* A dollar amount is \$1.00, \$2.00, \$3.00, and so on.)



Math Boxes 1.10

1. Use addition or subtraction to complete these problems on your calculator.

Enter **Change to** **How?**

894 2,894 _____

366 66 _____

27,581 28,581 _____

3,775 3,175 _____



2. In the number 38,642

the 4 means 40

the 8 means _____

the 6 means _____

the 3 means _____



3. Draw the bills and coins in two ways. \$2.43



4. Find the difference between

87 and 37 _____

72 and 55 _____

90 and 49 _____

47 and 26 _____



5. Write $<$, $>$, or $=$.

69 _____ 96

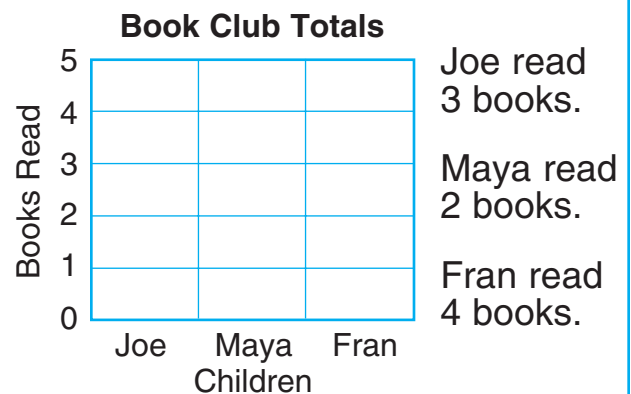
101 _____ 110

2@ _____ 5@

1,000 _____ 999



6. Complete the bar graph.



Total books read: _____ (unit)



Frames and Arrows

Math Message

Find the pattern. Fill in the missing numbers.

- 37, 40, 43, _____, _____, _____
- 27, 25, _____, 21, _____, _____
- _____, 11, 15, _____, 23, _____
- _____, _____, 36, 33, _____, 27

Frames and Arrows

5.

Rule				
+5¢	10¢			25¢

6.

Rule						
Double	2		8			64

7.

Rule						
		7		15	19	

8.

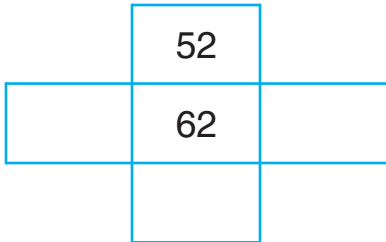
Rule						
			20		10	5

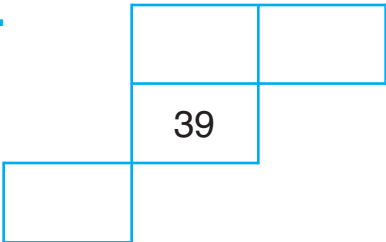
9. Make up one of your own.

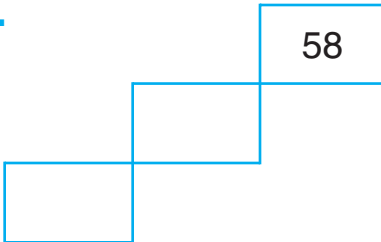
Rule					

Patterns

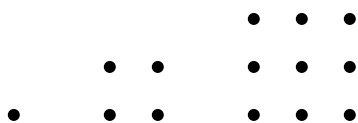
Complete the number-grid puzzles.

1. 

2. 

3. 

4. Draw dots to show what comes next.



5. Janie owns a magic calculator. When someone enters a number and then presses the = key, it changes the number. Here is what happened:

- Tom entered 15. He pressed = and the calculator showed 5.
- Mary entered 12. She pressed = and the calculator showed 2.
- Regina entered 27. She pressed = and the calculator showed 17.

6. What do you think the calculator will show if Janie enters 109 and = ? _____

7. Explain how you know. _____

Challenge

8. The numbers below have a pattern. Fill in the missing numbers.
Be careful: The same thing does not always happen each time.

4, 14, 24, 22, 32, 42, 40, 50, 60, 58, _____, _____, _____

9. Describe the pattern. _____

Tic-Tac-Toe Addition

Draw a line through any three numbers whose sum is the target number in the square. The numbers may be in a row, in a column, or on a diagonal. Draw more than one line for each sum.

8		
5	2	1
1	3	7
6	2	0

14		
3	4	7
1	8	6
5	1	3

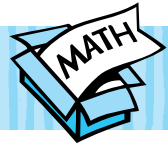
18		
6	4	9
5	8	5
7	6	4

20		
12	1	9
4	3	6
8	7	5

Think of some other Tic-Tac-Toe puzzles and write them below.

<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto;"></div>

Math Boxes 1.11



1. Write 5 names in the 100-box.

100



2. Fill in the missing numbers.

	713		



3. Write the number that is
10 less 100 less 1,000 less

4,321 _____

6,942 _____

7,011 _____

8,002 _____



4. Count back.

13, _____, _____, _____,

_____, _____, _____, _____,

_____, 4, _____, _____,

_____, _____, _____, _____,

5. About what time is it?



How many minutes
until 2:00? _____

6. Add.

$$4 + 9 = \underline{\hspace{2cm}}$$

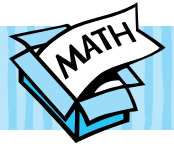
$$2 + 6 = \underline{\hspace{2cm}}$$

$$8 + 7 = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} = 6 + 6$$

$$\underline{\hspace{2cm}} = 9 + 8$$





Math Boxes 1.12

1. Use addition or subtraction to complete these problems on your calculator.

Enter	Change to	How?
4,501	1,501	_____
173	873	_____
15,604	16,604	_____
9,646	9,346	_____



2. Write the number that has
- 4 hundreds
- 6 thousands
- 7 ones
- 2 tens
- _____

Read it to a partner.



3. I spend \$3.25 at the store. I give the cashier a \$5.00 bill.

How much change should I get?

4. Find the difference between

91 and 21 _____

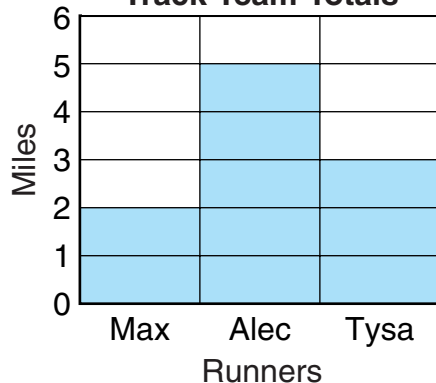
53 and 15 _____

70 and 29 _____

83 and 57 _____



5. **Track Team Totals**



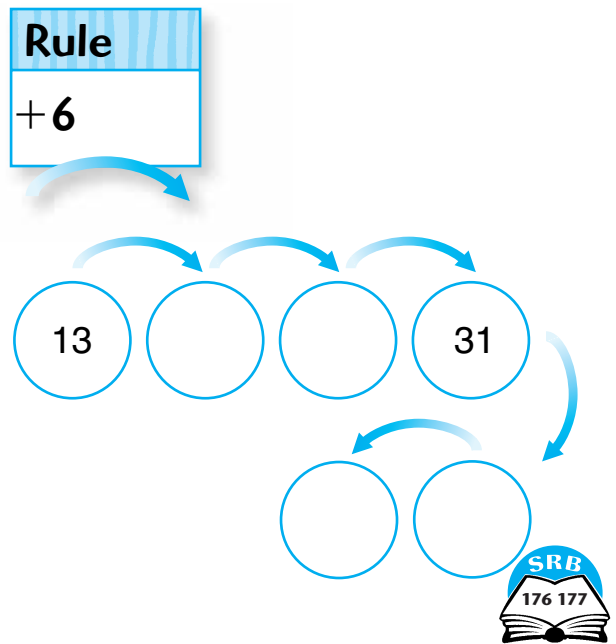
Max ran _____ miles.

Alec ran _____ miles.

Tysa ran _____ miles.



6. Fill in the empty frames.



Finding Elapsed Times

Write the time shown on the first two clocks below. For the third clock, draw the hands to match the time.

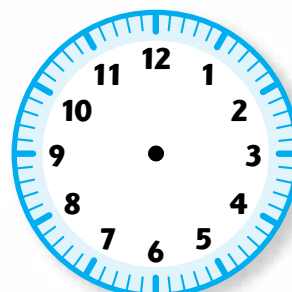
1.



2.



3.

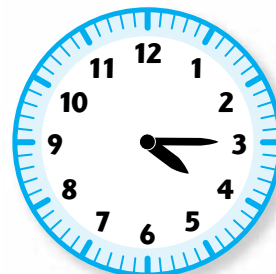


9:15

4. Megan leaves to go swimming at 4:05 and returns at 5:25. How long has she been gone?

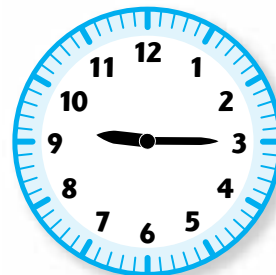
5. Robert rides his bike 37 miles. He rides from 10:15 A.M. until 3:50 P.M. How long does it take him to ride 37 miles?

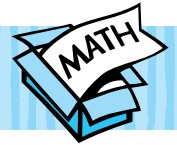
6. Joy leaves for school at the time shown on the first clock. She returns home at the time shown on the second clock. How long is Joy away from home?



Challenge

7. Peter baked cookies for a class party. He baked several different kinds. He began baking at the time shown on the first clock and finished at the time shown on the second clock. How long did it take Peter to bake the cookies?





Math Boxes 1.13

1. Complete the fact family.

$$6 + 7 = \underline{\hspace{2cm}}$$

$$7 + \underline{\hspace{2cm}} = 13$$

$$13 - 6 = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} - 7 = 6$$



2. Lara brought 14 candies to school. She gave away 7 during recess. How many candies does she have now?

 candies



3. Allison swam 16 laps in the pool. Melodia swam 9. How many more laps did Allison swim than Melodia?

 laps



4. Marque had \$6. His mother gave him \$8. How much money does Marque have now?

\$



5. Andre scored 7 points. Tina scored 5 points. How many points did they score altogether?

 points



6. Add.

$$0 + 7 = \underline{\hspace{2cm}}$$

$$5 + 1 = \underline{\hspace{2cm}}$$

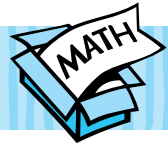
$$3 + 3 = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} = 4 + 7$$

$$\underline{\hspace{2cm}} = 9 + 6$$



Math Boxes 2.1



1. Write 5 names in the 120-box.

120



2. In the number 76,135

the 1 means 100

the 7 means _____

the 6 means _____

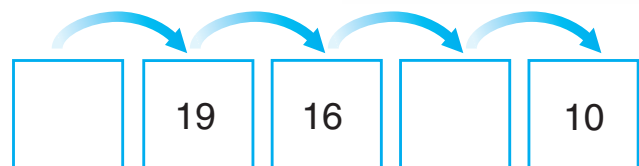
the 3 means _____



3. Show \$21.62 in two ways.

4. Find the rule. Fill in the empty frames.

Rule



5. Write $<$, $>$, or $=$.

42,617 42,429

6,589 6,859

1,069 10,691

Make up your own.

_____ _____



6. Find the difference between

84 and 14 _____

68 and 25 _____

50 and 16 _____

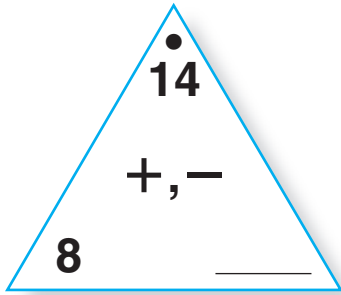
66 and 42 _____



Fact Families and Number Families

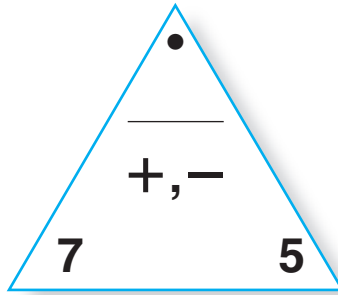
Complete the Fact Triangles. Write the fact families.

1.



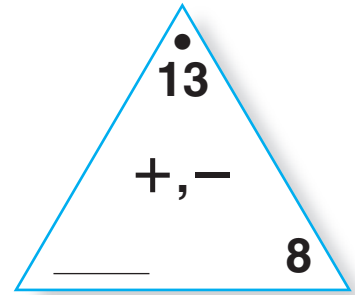
$$\begin{array}{l} \underline{\quad} + \underline{\quad} = \underline{\quad} \\ \underline{\quad} + \underline{\quad} = \underline{\quad} \\ \underline{\quad} - \underline{\quad} = \underline{\quad} \\ \underline{\quad} - \underline{\quad} = \underline{\quad} \end{array}$$

2.



$$\begin{array}{l} \underline{\quad} = \underline{\quad} + \underline{\quad} \\ \underline{\quad} = \underline{\quad} + \underline{\quad} \\ \underline{\quad} = \underline{\quad} - \underline{\quad} \\ \underline{\quad} = \underline{\quad} - \underline{\quad} \end{array}$$

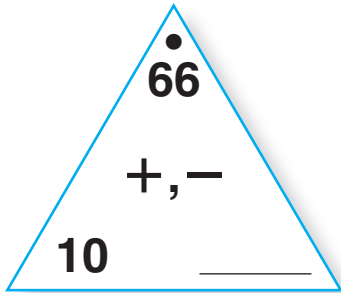
3.



$$\begin{array}{l} \underline{\quad} + \underline{\quad} = \underline{\quad} \\ \underline{\quad} + \underline{\quad} = \underline{\quad} \\ \underline{\quad} - \underline{\quad} = \underline{\quad} \\ \underline{\quad} - \underline{\quad} = \underline{\quad} \end{array}$$

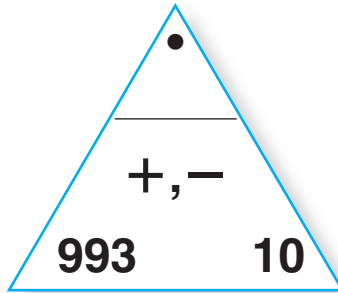
Complete the number triangles. Write the number families.

4.



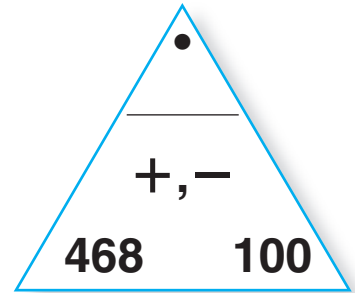
$$\begin{array}{l} \underline{\quad} = \underline{\quad} + \underline{\quad} \\ \underline{\quad} = \underline{\quad} + \underline{\quad} \\ \underline{\quad} = \underline{\quad} - \underline{\quad} \\ \underline{\quad} = \underline{\quad} - \underline{\quad} \end{array}$$

5.



$$\begin{array}{l} \underline{\quad} + \underline{\quad} = \underline{\quad} \\ \underline{\quad} + \underline{\quad} = \underline{\quad} \\ \underline{\quad} - \underline{\quad} = \underline{\quad} \\ \underline{\quad} - \underline{\quad} = \underline{\quad} \end{array}$$

6.



$$\begin{array}{l} \underline{\quad} = \underline{\quad} + \underline{\quad} \\ \underline{\quad} = \underline{\quad} + \underline{\quad} \\ \underline{\quad} = \underline{\quad} - \underline{\quad} \\ \underline{\quad} = \underline{\quad} - \underline{\quad} \end{array}$$

Name-Collection Boxes

1. Three names do not belong. Mark them with a big X.

100

1,680 - 1,580

25 + 25 + 25

30 + 70

63

+ 37

2 fifties

1,000

- 100

9,999

- 9,899

80

+ 30

48 + 52

2. Write at least 10 names for 40.

40

3. Write at least 10 names for 200.

200

4. Write at least 10 names for 1,000.

1,000

Using Basic Facts to Solve Fact Extensions

Fill in the unit box.

Unit

Complete the fact extensions.

1. _____ = $12 - 7$

_____ = $120 - 70$

_____ = $1,200 - 700$

2. $8 + 3 =$ _____

$80 + 30 =$ _____

$800 + 300 =$ _____

3. _____ = $7 + 6$

_____ = $70 + 60$

_____ = $700 + 600$

Complete the fact extensions.

4. _____ = $6 + 8$

_____ = $16 + 8$

_____ = $56 + 8$

5. $14 - 9 =$ _____

$24 - 9 =$ _____

$54 - 9 =$ _____

6. _____ = $17 - 11$

_____ = $27 - 11$

_____ = $47 - 11$

Use addition or subtraction to complete these problems on your calculator.

7. Enter Change to How?

33 40 _____

80 73 _____

80 23 _____

8. Enter Change to How?

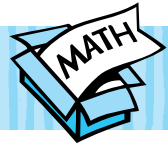
430 500 _____

700 640 _____

1,000 400 _____

9. Why is it important to know the basic addition and subtraction facts?

Math Boxes 2.2



1. I spent \$7.88 at the store. I gave the cashier a \$10 bill. How much change should I get back?

\$ _____

2. Write the +, - fact family for 8, 7, and 15.

_____ + _____ = _____

_____ + _____ = _____

_____ - _____ = _____

_____ - _____ = _____



3. Use your calculator to find the total.

4 **\$1** = \$ _____

3 **Q** = \$ _____

5 **D** = \$ _____

7 **N** = \$ _____

2 **P** = \$ _____

Total \$ _____

4. What time is it?

What time will it be in 20 minutes?

How many minutes until 5:15?



5. Put these numbers in order from smallest to largest.

1,060 _____

1,600 _____

1,006 _____

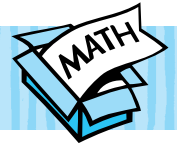
6,001 _____



6. Fill in the missing numbers.

	1,073		
		1,104	





Math Boxes 2.3

1. Write the number that is

10 less 100 more 1,000 more

368 _____ _____ _____

4,789 _____ _____ _____

40,870 _____ _____ _____

1,999 _____ _____ _____



2. Complete the fact extensions.

$$13 = 6 + 7$$

$$\underline{\hspace{2cm}} = 16 + 7$$

$$\underline{\hspace{2cm}} = 26 + 7$$

$$\underline{\hspace{2cm}} = 106 + 7$$

$$\underline{\hspace{2cm}} = 136 + 7$$

Unit

Unit

3. Show \$6.62 in two other ways.

\$5

Ⓚ Ⓚ

Ⓚ Ⓚ

Ⓚ Ⓚ

Ⓝ Ⓝ

Ⓟ Ⓟ

--	--

4. Fill in the empty frames.

Rule

+100

		935		
--	--	-----	--	--



5. Fill in $<$, $>$, or $=$.

49 495

3,000 300

69 hundreds 69 thousands



6. Fill in the missing numbers.



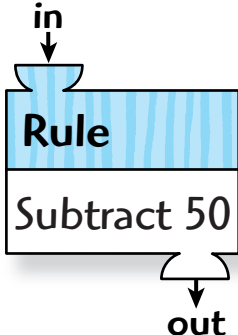
___ 8 ___ 20 ___



"What's My Rule?"

Fill in the blanks.

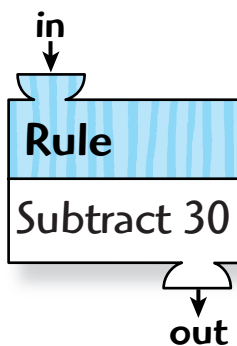
1.



in	out
100	
120	
70	
150	
200	

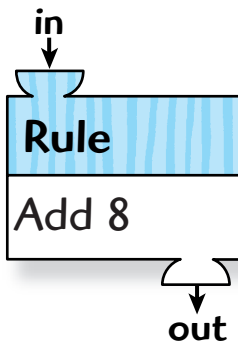
2.

Unit stickers



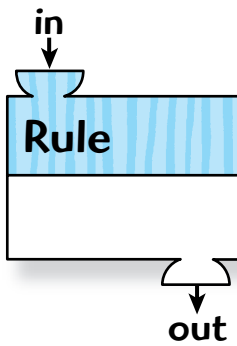
in	out
	30
	50
	100
	200
	0

3.



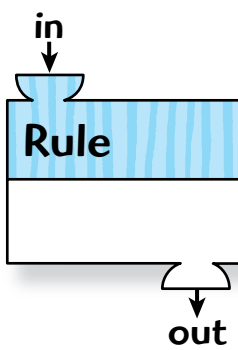
in	out
	13
	23
	43
	73
	93

4.



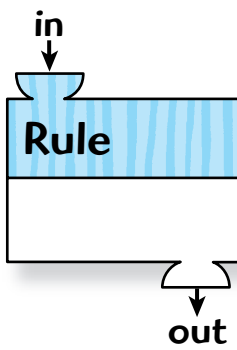
in	out
14	23
34	43
44	53
64	73
94	103

5.



in	out
35	20
	45
20	
50	35
46	

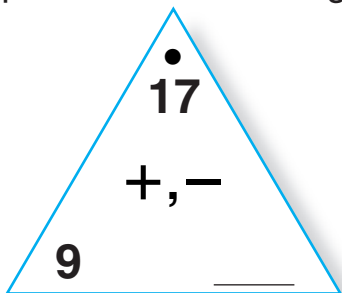
6.



in	out
6	13
9	
5	
4	11
	18

Fact Families and Number Families

1. Complete the Fact Triangles. Write the fact families.

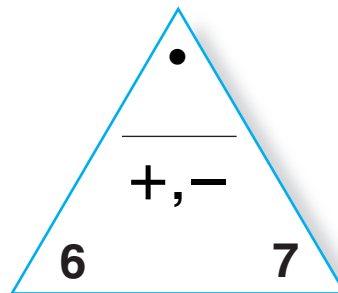


$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} - \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} - \underline{\quad} = \underline{\quad}$$



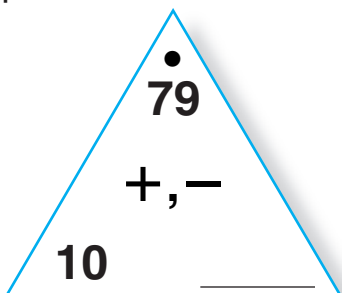
$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} - \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} - \underline{\quad} = \underline{\quad}$$

2. Complete the number triangles. Write the number families.

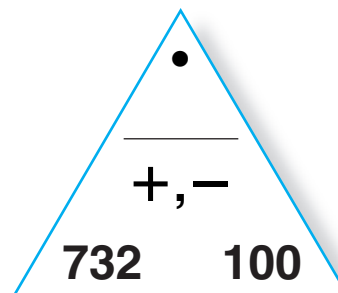


$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} - \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} - \underline{\quad} = \underline{\quad}$$



$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} + \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} - \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} - \underline{\quad} = \underline{\quad}$$

Enter the first number into your calculator. Use addition or subtraction to change it to the second number. Then tell what you did.

	Enter	Change to	How?
3.	54	60	$\underline{\quad}$
5.	90	81	$\underline{\quad}$

	Enter	Change to	How?
4.	230	300	$\underline{\quad}$
6.	800	720	$\underline{\quad}$

Number Stories: Animal Clutches

For each number story, write the numbers you know in the parts-and-total diagram. Write ? for the number you want to find. Solve the problem and write a number model.

1. Two pythons laid clutches of eggs. One clutch had 36 eggs. The other had 23 eggs. That was how many eggs in all?

Answer the question: _____ (unit)

Number model: _____

Check: Does my answer make sense?

Total	
Part	Part

2. A queen termite laid about 6,000 eggs on Monday and about 7,000 eggs on Tuesday. About how many eggs did she lay in all?

Answer the question: _____ (unit)

Number model: _____

Check: Does my answer make sense?

Total	
Part	Part

3. Two agama lizards laid clutches of eggs. One clutch had 19 eggs. The other had 22 eggs. In all, how many eggs were laid?

Answer the question: _____ (unit)

Number model: _____

Check: Does my answer make sense?

Total	
Part	Part

4. Two clutches of Mississippi alligator eggs were found. Each clutch had 47 eggs. What was the total number of eggs found?

Answer the question: _____ (unit)

Number model: _____

Check: Does my answer make sense?

Total	
Part	Part

Number Stories: Animal Clutches (cont.)

5. Three ostriches laid clutches of eggs. The first clutch had 15 eggs, the second had 9 eggs, and the third had 10 eggs. That was how many eggs in all?

Answer the question: _____ (unit)

Number model: _____

Check: Does my answer make sense?

Total		
Part	Part	Part

Challenge

6. An alligator clutch had 60 eggs. Only 12 eggs hatched. How many eggs did not hatch?

Answer the question: _____ (unit)

Number model: _____

Check: Does my answer make sense?

Total	
Part	Part

7. Scientists say a green turtle can lay about 1,800 eggs in a lifetime. But only about 400 eggs hatch. About how many eggs do not hatch?

Answer the question: _____ (unit)

Number model: _____

Check: Does my answer make sense?

Total	
Part	Part

8. On a separate sheet of paper, make up and solve a story using the Animal Clutches poster on pages 242 and 243 in your *Student Reference Book*.

Answer the question: _____ (unit)

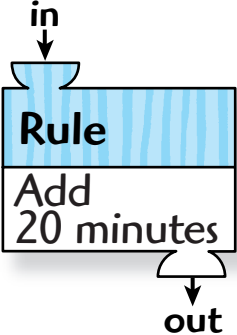
Number model: _____

Check: Does my answer make sense?

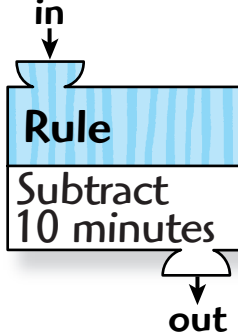
Total	
Part	Part

"What's My Rule?"

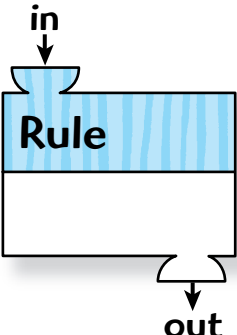
Fill in the blanks.

1. 

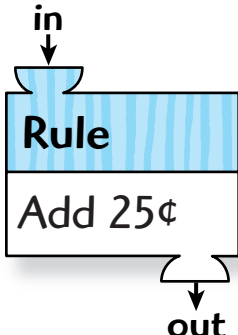
in	out
1:00	
2:05	
4:15	
7:45	
8:51	

2. 

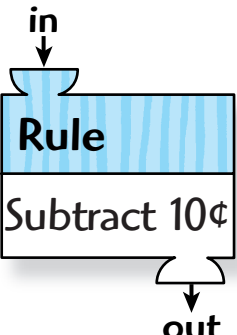
in	out
	2:00
	3:15
	6:35
	7:42
	9:55

3. 

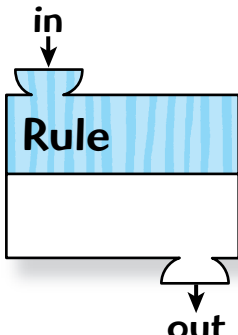
in	out
2:00	2:50
3:15	4:05
5:30	6:20
	7:55
8:45	

4. 

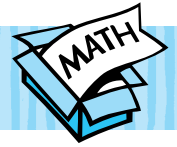
in	out
10¢	
20¢	
25¢	
83¢	
\$1.00	

5. 

in	out
	20¢
	45¢
	50¢
	63¢
	\$1.00

6. 

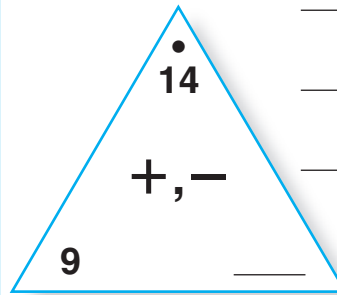
in	out
10¢	26¢
25¢	41¢
\$1.20	\$1.36
80¢	
	99¢



Math Boxes 2.4

1. I had a \$10 bill. I bought \$3.92 worth of candy. How much change should I get?
- _____

2. Complete the Fact Triangle. Write the fact family.



$$\begin{aligned} \underline{\quad} + \underline{\quad} &= \underline{\quad} \\ \underline{\quad} + \underline{\quad} &= \underline{\quad} \\ \underline{\quad} - \underline{\quad} &= \underline{\quad} \\ \underline{\quad} - \underline{\quad} &= \underline{\quad} \end{aligned}$$



3. Use a calculator to find the total.

2 = \$ _____

1 = \$ _____

3 = \$ _____

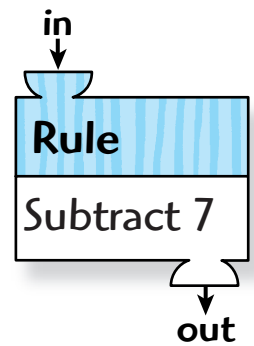
8 = \$ _____

6 = \$ _____

Total \$ _____

4. "What's My Rule?"

in	out
14	
24	
39	
	42
	65



5. Use addition or subtraction to complete these problems on your calculator.

Enter **Change to** **How?**

4,501 1,501 _____

173 873 _____

15,604 16,604 _____

9,646 9,346 _____



6. Find the difference between

71 and 41 _____

93 and 45 _____

60 and 22 _____

87 and 54 _____



Number Stories: Change-to-More and Change-to-Less

For each number story, write the numbers you know in the change diagram. Write ? for the number you want to find. Then solve the problem. Write the answer and a number model.

Unit
dollars

1. David had \$22 in his bank account. For his birthday, his grandmother deposited \$25 for him. How much money is in his bank account now?

Start	Change	End
		

Answer the question: _____

Number model: _____

Check: Does my answer make sense?

2. Jennifer had \$19 in her bank account. After babysitting, she is able to deposit \$38. How much money is in her bank account now?

Start	Change	End
		

Answer the question: _____

Number model: _____

Check: Does my answer make sense?

3. Omar had \$53 in his piggy bank. He used \$16 to take his sister to the movies and buy treats. How much money is left in his piggy bank?

Start	Change	End
		

Answer the question: _____

Number model: _____

Check: Does my answer make sense?

4. Cleo had \$37 in her purse. Then Jillian returned \$9 that she had borrowed. How much money does Cleo have now?

Start	Change	End
		

Answer the question: _____

Number model: _____

Check: Does my answer make sense?

Number Stories (cont.)

5. Tyler had \$30 in his wallet. At lunch he spent \$17. How much money does Tyler have now?

Answer the question: _____

Number model: _____

Check: Does my answer make sense?

Start	Change	End
		

6. Andre had \$61 in his bank account. He withdrew \$48 to take on vacation. How much is left in his account?

Answer the question: _____

Number model: _____

Check: Does my answer make sense?

Start	Change	End
		

Challenge

7. Trung had \$15 in his piggy bank. After his birthday, he has \$60 in his bank. How much money did Trung get as birthday presents?

Answer the question: _____

Number model: _____

Check: Does my answer make sense?

Start	Change	End
		

8. Nikhil had \$40 in his wallet when he went to the carnival. When he got home, he had \$18. How much did he spend at the carnival?

Answer the question: _____

Number model: _____

Check: Does my answer make sense?

Start	Change	End
		

Parts-and-Total Number Stories

For each number story, write the numbers you know in the parts-and-total diagram. Write ? for the number you want to find. Then solve the problem. Write the answer and a number model.

1. There were 80 people at the concert on Saturday night and 50 people at the concert on Sunday night. Altogether, how many people went to the concert?

Answer the question: _____ (unit)

Number model: _____

Check: Does my answer make sense?

Total	
Part	Part

2. About 800 pieces of mail are lost in the United States every day. About how many pieces of mail are lost in 2 days?

Answer the question: _____ (unit)

Number model: _____

Check: Does my answer make sense?

Total	
Part	Part

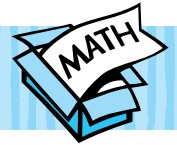
3. The Ramirez family drove 600 miles during the first week of their vacation and 900 miles during the second week. How many miles did they drive in all?

Answer the question: _____ (unit)

Number model: _____

Check: Does my answer make sense?

Total	
Part	Part



Math Boxes 2.5

1. Write $<$, $>$, or $=$.

45¢ \$0.45

4 Ⓓ 3 Ⓖ

\$1.85 \$3.00

5 Ⓐ 2 Ⓓ, 1 Ⓐ

2. Find the missing sums.

Unit

$4 + 5 = \underline{\hspace{2cm}}$

$\underline{\hspace{2cm}} = 14 + 5$

$24 + 5 = \underline{\hspace{2cm}}$

$5 + 44 = \underline{\hspace{2cm}}$

3. Write this number:

six thousand, four hundred
twenty-two

Write the words for 5,931.

4. The school chorus has 28 second graders and 34 third graders. How many children are the chorus?

_____ children

Total	
Part	Part



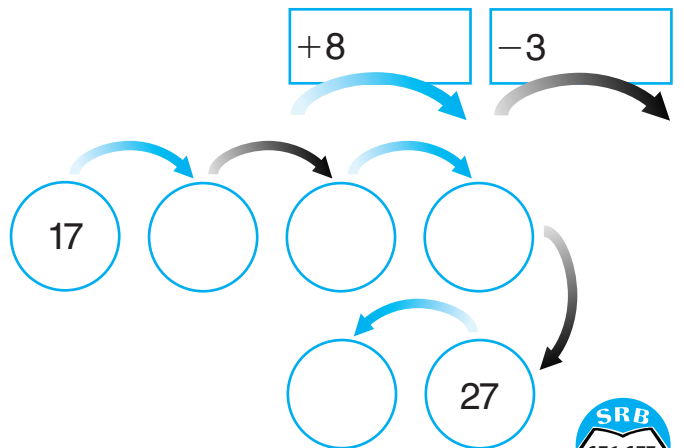
5. How many children like grapes?

How many children like oranges?

Fruit Choice	Number of Children
apples	////
grapes	###
oranges	///
pears	### ###



6. Fill in the empty frames. Use two rules.



Temperature Differences

Use the map on page 244 in the *Student Reference Book* to answer Problems 1–4. Write the numbers you know in the comparison diagram. Write ? for the number you want to find. Then solve the problem. Write the answer and a number model.

1. What is the difference between the normal high and low temperatures for San Francisco?

Answer the question: _____ °F

Number model: _____

Check: Does my answer make sense?

Quantity	

Quantity	Difference

2. What is the difference between the normal high and low temperatures for Minneapolis?

Answer the question: _____ °F

Number model: _____

Check: Does my answer make sense?

Quantity	

Quantity	Difference

3. Which city has the *largest* difference between the normal high and low temperatures?

_____ What is the difference? _____ °F

4. Which city has the *smallest* difference between the normal high and low temperatures?

_____ What is the difference? _____ °F

5. The normal January low in Chicago is 25°F less than the normal spring low of 38°F. What is the normal January low in Chicago?

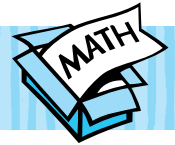
Answer the question: _____ °F

Number model: _____

Check: Does my answer make sense?

Quantity	

Quantity	Difference



Math Boxes 2.6

1. Write at least 5 names for 1,000.

1,000



2. Use 15, 12, and 27. Write the number family.

3. 14 dimes = \$_____.

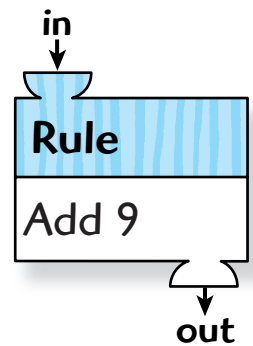
14 nickels = \$_____.

14 quarters = \$_____.

3 quarters and 6 dimes
= \$_____.

4. "What's My Rule?"

in	out
4	
	12
0	
	21



5. Complete the grid.

		9,975	



6. Jonah had \$52. He bought a CD for \$14. How much money does he have now?



The Partial-Sums Addition Method

Make a ballpark estimate first. Write a number model to show your estimate. Next, solve using the partial-sums method and show your work. Then compare your answers with a partner's. If you disagree, use a calculator. If you did a problem incorrectly, work it again.

Unit
miles

Example

100s	10s	1s
3	2	9
+ 4	1	8
7 0 0		
	3	0
+	1	7
7 4 7		

Ballpark estimate:

$$\underline{300 + 400 = 700}$$

1.

$$\begin{array}{r} 43 \\ + 26 \\ \hline \end{array}$$

Ballpark estimate:

2.

$$\begin{array}{r} 90 \\ + 37 \\ \hline \end{array}$$

Ballpark estimate:

3.

$$\begin{array}{r} 172 \\ + 109 \\ \hline \end{array}$$

Ballpark estimate:

4.

$$\begin{array}{r} 87 \\ + 113 \\ \hline \end{array}$$

Ballpark estimate:

5.

$$\begin{array}{r} 376 \\ + 401 \\ \hline \end{array}$$

Ballpark estimate:

The Partial-Sums Addition Method (cont.)

6.

$$\begin{array}{r} 751 \\ + 757 \\ \hline \end{array}$$

Ballpark estimate:

7.

$$\begin{array}{r} 743 \\ + 504 \\ \hline \end{array}$$

Ballpark estimate:

8.

$$\begin{array}{r} 257 \\ + 245 \\ \hline \end{array}$$

Ballpark estimate:

9.

$$\begin{array}{r} 298 \\ + 419 \\ \hline \end{array}$$

Ballpark estimate:

10.

$$\begin{array}{r} 487 \\ + 313 \\ \hline \end{array}$$

Ballpark estimate:

11.

$$\begin{array}{r} 1,438 \\ + 694 \\ \hline \end{array}$$

Ballpark estimate:

Change-to-More and Change-to-Less Number Stories

Write the numbers you know in the change diagram. Write ? for the number you want to find. Then solve the problem. Write the answer and a number model.

1. Nikki had a collection of 35 beanbag animals. She gave 17 of the animals to her sister. How many does she have now?



Answer the question: _____ (unit)

Number model: _____

Check: Does my answer make sense?

2. Lewis delivered newspapers to 27 houses. Fourteen more houses were added to his route. How many houses does he deliver to now?



Answer the question: _____ (unit)

Number model: _____

Check: Does my answer make sense?

3. At 5:00 P.M. there were 100 people waiting for the fireworks. By 8:00 P.M. 300 more people had arrived. How many people were waiting then?



Answer the question: _____ (unit)

Number model: _____

Check: Does my answer make sense?

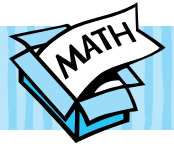
4. Make up your own change number story.

Answer the question: _____ (unit)

Number model: _____

Check: Does my answer make sense?





Math Boxes 2.7

1. 10 more 100 more 1,000 more

65 _____

410 _____

602 _____

1,543 _____

7,095 _____



2. Fill in the blanks.

$$34 + \underline{\hspace{2cm}} = 60$$

$$\underline{\hspace{2cm}} = 19 + 21$$

$$100 = 50 + \underline{\hspace{2cm}}$$

$$70 = \underline{\hspace{2cm}} - 20$$

3. I spent \$4.13 at the store. I gave the cashier \$5.00. How much change should I receive?

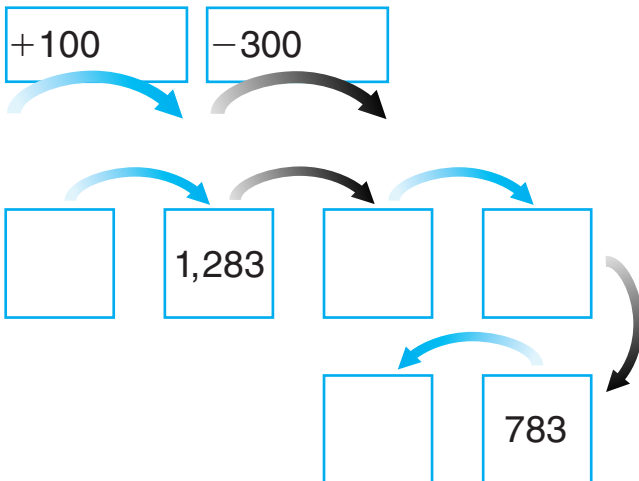
Draw the fewest number of coins possible to show the change I received.

4. Lily had 33 rings in one box and 29 in another. How many did she have in all? _____ rings

Total	
Part	Part



5. Fill in the empty frames. Use two rules.



6. Austin read his book for 45 minutes on Monday and for 25 minutes on Tuesday. How many more minutes did he read on Monday?

_____ minutes

Quantity	
Quantity	Difference



The Trade-First Subtraction Method

Solve using the trade-first subtraction method. Show your work. Use a ballpark estimate to check whether your answer makes sense. Write a number model for your estimate. Then compare your answers with a partner's. Use a calculator if you disagree. If you did a problem incorrectly, work it again.

Unit
miles

Example

100s	10s	1s
/	/4	
2	4	7
-1	8	6
	6	1

Ballpark estimate:

$$\underline{250 - 200 = 50}$$

1.

$$\begin{array}{r} 91 \\ - 46 \\ \hline \end{array}$$

Ballpark estimate:

2.

$$\begin{array}{r} 63 \\ - 38 \\ \hline \end{array}$$

Ballpark estimate:

3.

$$\begin{array}{r} 129 \\ - 112 \\ \hline \end{array}$$

Ballpark estimate:

4.

$$\begin{array}{r} 208 \\ - 106 \\ \hline \end{array}$$

Ballpark estimate:

5.

$$\begin{array}{r} 213 \\ - 206 \\ \hline \end{array}$$

Ballpark estimate:

The Trade-First Subtraction Method (cont.)

6.

$$\begin{array}{r} 245 \\ - 207 \\ \hline \end{array}$$

Ballpark estimate:

7.

$$\begin{array}{r} 283 \\ - 256 \\ \hline \end{array}$$

Ballpark estimate:

8.

$$\begin{array}{r} 853 \\ - 606 \\ \hline \end{array}$$

Ballpark estimate:

9.

$$\begin{array}{r} 826 \\ - 172 \\ \hline \end{array}$$

Ballpark estimate:

10.

$$\begin{array}{r} 752 \\ - 387 \\ \hline \end{array}$$

Ballpark estimate:

11.

$$\begin{array}{r} 640 \\ - 479 \\ \hline \end{array}$$

Ballpark estimate:

Addition Strategies

Use any method you like to solve each addition problem. Show your work. Use a ballpark estimate to check whether your answer makes sense. Write a number model for your estimate.

Example

100s	10s	1s
2	3	8
+ 4	4	1
6 0 0		
	7	0
+		9
6 7 9		

Ballpark estimate:

$$\underline{240 + 440 = 680}$$

1.

$$\begin{array}{r} 439 \\ + 356 \\ \hline \end{array}$$

Ballpark estimate:

2.

$$\begin{array}{r} 318 \\ + 226 \\ \hline \end{array}$$

Ballpark estimate:

3.

$$\begin{array}{r} 487 \\ + 258 \\ \hline \end{array}$$

Ballpark estimate:

4.

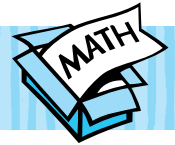
$$\begin{array}{r} 353 \\ + 187 \\ \hline \end{array}$$

Ballpark estimate:

5.

$$\begin{array}{r} 754 \\ + 668 \\ \hline \end{array}$$

Ballpark estimate:



Math Boxes 2.8

1. Put these numbers in order from smallest to largest.

32,764 _____

8,596 _____

32,199 _____

85,096 _____



2. Use 87, 5, and 92. Write 2 addition and 2 subtraction number models.

3. Add. Show your work.

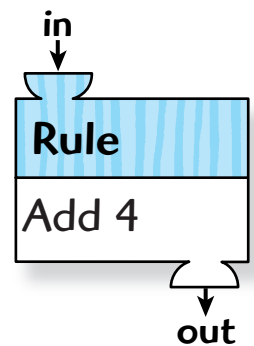
$$\begin{array}{r} 27 \\ + 48 \\ \hline \end{array}$$

$$\begin{array}{r} 152 \\ + 394 \\ \hline \end{array}$$



4. "What's My Rule?"

in	out
10	
21	
32	
	60



5. Use your calculator. Write the answers in dollars and cents.

$$64¢ + \$1.73 = \$_____._____$$

$$\$0.85 + 53¢ = \$_____._____$$

$$\$2.08 + \$5.01 = \$_____._____$$

$$37¢ + 26¢ = \$_____._____$$

6. Theo had 17 shells in his collection. He found 9 more at the beach. How many shells are in his collection now?

_____ shells



Number Stories with Three or More Addends

1. José bought milk at 35 cents, apple juice at 55 cents, grape juice at 45 cents, and orange juice at 65 cents. How much money did he spend?

Answer the question: _____ (unit)

Number model:

Check: Does my answer make sense?

Total			
Part	Part	Part	Part

2. Michelle drove from Houston, Texas, to Wichita, Kansas. On the first day she drove 245 miles. On the second day she drove 207 miles. On the third day she drove 158 miles and arrived in Wichita. How many miles did she travel in all?

Answer the question: _____ (unit)

Number model:

Check: Does my answer make sense?

Total		
Part	Part	Part

3. Zookeepers watched a clutch of 54 python eggs. On the first day, 18 eggs hatched. On the next day, 11 more hatched. How many eggs still had not hatched?

Answer the question: _____ (unit)

Number model:

Check: Does my answer make sense?

Total		
Part	Part	Part

Number Stories with Three or More Addends (cont.)

4. Carl has \$2.50 for juice or milk at lunch. On each of 2 days, he buys grape juice for 45 cents. On the third day, he buys milk for 40 cents. How much money does he have left?

Answer the question: _____
(unit)

Number model:

Check: Does my answer make sense?

Total			
Part	Part	Part	Part

5. Janna started to read a 128-page book. She read 13 pages before dinner and 39 pages after dinner. How many pages does she have left?

Answer the question: _____
(unit)

Number model:

Check: Does my answer make sense?

Total		
Part	Part	Part

6. The Flores family is driving from Minneapolis, Minnesota, to Bismarck, North Dakota. The distance is 501 miles. They drove 235 miles before lunch. After lunch they drove 150 miles and stopped for a rest. How many more miles will they drive?

Answer the question: _____
(unit)

Number model:

Check: Does my answer make sense?

Total		
Part	Part	Part

Subtraction Strategies

Solve each subtraction problem using your own method. Show your work. Use a ballpark estimate to check whether your answer makes sense. Write a number model for your estimate.

Example

100s	10s	1s
/	/2	
2	2	6
-1	3	4
	9	2

Ballpark estimate:

$$\underline{230 - 130 = 100}$$

1.

$$\begin{array}{r} 93 \\ - 47 \\ \hline \end{array}$$

Ballpark estimate:

2.

$$\begin{array}{r} 487 \\ - 129 \\ \hline \end{array}$$

Ballpark estimate:

3.

$$\begin{array}{r} 361 \\ - 248 \\ \hline \end{array}$$

Ballpark estimate:

4.

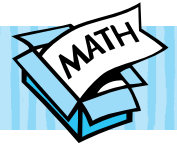
$$\begin{array}{r} 724 \\ - 396 \\ \hline \end{array}$$

Ballpark estimate:

5.

$$\begin{array}{r} 515 \\ - 367 \\ \hline \end{array}$$

Ballpark estimate:



Math Boxes 2.9

1. Fill in the tag. Write at least 5 names for that number.



2. Complete the problems.

$$\begin{array}{r} 430 \\ + \quad \quad \\ \hline 600 \end{array}$$

$$\begin{array}{r} 950 \\ + \quad \quad \\ \hline 1,000 \end{array}$$

$$\begin{array}{r} 1,000 \\ - 300 \\ \hline \end{array}$$

$$\begin{array}{r} 560 \\ - \quad \quad \\ \hline 400 \end{array}$$

Unit

3. Subtract. Show your work.

$$\begin{array}{r} 72 \\ - 35 \\ \hline \end{array}$$

$$\begin{array}{r} 153 \\ - 28 \\ \hline \end{array}$$



4. There are 17 boys and 24 girls in the math club. How many children in all are in the math club?

_____ children

Total	
Part	Part



5. About what time is it?



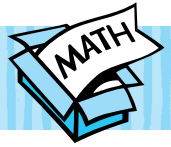
6. Jack answered 29 questions. José answered 37 questions. How many fewer questions did Jack answer than José?

_____ questions

Quantity

Quantity	Difference





Math Boxes 2.10

1. Which tool would you use to measure the following?

yardstick

ruler

thermometer

temperature _____

height of the ceiling _____

length of your thumb _____



2. Circle the best unit of measurement.

distance to Spain

miles centimeters inches

width of a crayon

miles centimeters feet

length of your journal

miles yards inches



3. Measure the line segment in inches.

_____ inches



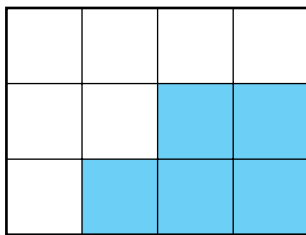
4. Measure the line segment in centimeters.

_____ centimeters



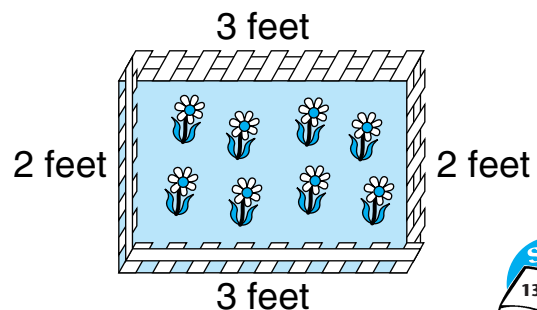
5. How many squares are shaded?

_____ squares



6. How long is the fence around the flowers?

_____ feet



Estimating and Measuring Lengths

Work with a partner. Estimate the lengths of things in the classroom in “class shoe” units. Write the estimate. Then use the “class shoe” strip to measure the object. Write the measurement.

Object	Estimate	Measurement
	about _____ “class shoes”	about _____ “class shoes”
	about _____ “class shoes”	about _____ “class shoes”
	about _____ “class shoes”	about _____ “class shoes”
	about _____ “class shoes”	about _____ “class shoes”
	about _____ “class shoes”	about _____ “class shoes”
	about _____ “class shoes”	about _____ “class shoes”
	about _____ “class shoes”	about _____ “class shoes”
	about _____ “class shoes”	about _____ “class shoes”

Why is it important to use the same units everyone else is using to measure things?

Addition and Subtraction Practice

Add or subtract. Make a ballpark estimate to check your answer.
Write a number model for your estimate.

Unitpumpkin
seeds**1.**

$$\begin{array}{r} 681 \\ + 253 \\ \hline \end{array}$$

Ballpark estimate:
_____**2.**

$$\begin{array}{r} 749 \\ + 161 \\ \hline \end{array}$$

Ballpark estimate:
_____**3.**

$$\begin{array}{r} 417 \\ + 386 \\ \hline \end{array}$$

Ballpark estimate:
_____**4.**

$$\begin{array}{r} 472 \\ - 253 \\ \hline \end{array}$$

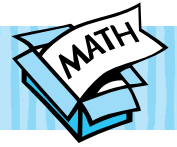
Ballpark estimate:
_____**5.**

$$\begin{array}{r} 728 \\ - 173 \\ \hline \end{array}$$

Ballpark estimate:
_____**6.**

$$\begin{array}{r} 550 \\ - 364 \\ \hline \end{array}$$

Ballpark estimate:



Math Boxes 3.1

1. Show \$10.78 in two other ways.

\$5

\$5

Q Q

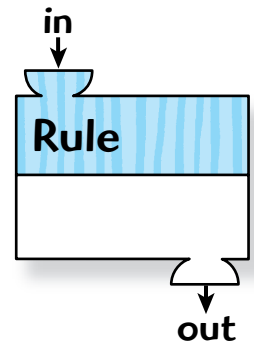
D D

N P

P P

2. Find the rule and complete the table.

in	out
117	112
119	
	116
	131
142	



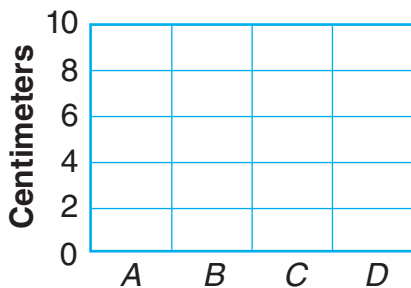
3. Shade to show the following data.

A is 4 cm.

B is 3 cm.

C is 8 cm.

D is 7 cm.



4. Write a number story by filling in the blanks.

Tom collects coins. He has

_____ quarters, _____ dimes,

_____ nickels, and _____ pennies.

How many coins in all?



5. Write $<$, $>$, or $=$.

$$4 + 5 + 6 \text{ ____ } 3 + 5 + 7$$

$$7 + 5 + 9 \text{ ____ } 6 + 6 + 8$$

$$2 + 11 + 4 \text{ ____ } 7 + 1 + 9$$

$$15 + 7 + 5 \text{ ____ } 9 + 9 + 9$$

$$4 + 5 + 6 \text{ ____ } 3 + 7 + 6$$



6. Add. Show your work.

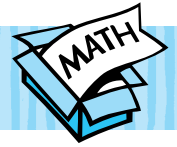
$$\begin{array}{r} 492 \\ + 18 \\ \hline \end{array}$$

$$\begin{array}{r} 555 \\ + 192 \\ \hline \end{array}$$



Measuring Line Segments

<p>1. Use Ruler A to measure to the nearest inch (in.).</p> <p>Use Ruler E to measure to the nearest centimeter (cm).</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>Ruler A</p> <p>about _____ in.</p> <p>about _____ in.</p> <p>about _____ in.</p>	<p>Ruler E</p> <p>about _____ cm</p> <p>about _____ cm</p> <p>about _____ cm</p>
<p>2. Use Ruler B to measure to the nearest $\frac{1}{2}$ inch.</p> <p>Use Ruler E to measure to the nearest $\frac{1}{2}$ centimeter (cm).</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>Ruler B</p> <p>about _____ in.</p> <p>about _____ in.</p> <p>about _____ in.</p>	<p>Ruler E</p> <p>about _____ cm</p> <p>about _____ cm</p> <p>about _____ cm</p>
<p>3. Use Ruler C to measure to the nearest $\frac{1}{4}$ inch.</p> <p>Use Ruler E to measure to the nearest millimeter (mm).</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>Ruler C</p> <p>about _____ in.</p> <p>about _____ in.</p> <p>about _____ in.</p>	<p>Ruler E</p> <p>about _____ mm</p> <p>about _____ mm</p> <p>about _____ mm</p>



Math Boxes 3.2

1. Complete the puzzle.

9,632				
			9,665	



2. 53 people were standing in line at 9:00 A.M. 97 people were standing in line at 10:00 A.M. How many more people were standing in line at 10:00 A.M.? _____ people

Quantity	
Quantity	Difference



3. Count by 100s.

_____ 97 ; _____ ; _____ ;
 _____ ; 497 ; _____ ;
 _____ ; _____ ; _____ ;
 _____ ; _____ ; _____

4. Subtract. Show your work.

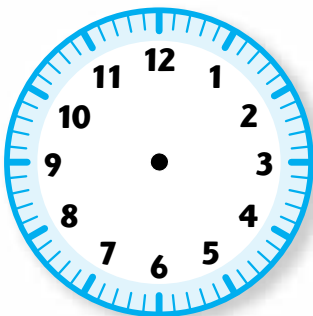
$$\begin{array}{r} 943 \\ - 409 \\ \hline \end{array}$$

$$\begin{array}{r} 884 \\ - 299 \\ \hline \end{array}$$

$$\begin{array}{r} 695 \\ - 47 \\ \hline \end{array}$$



5. It is 7:45 A.M. Draw the hour and minute hands to show the time 15 minutes earlier. What time does the clock show now? _____



6. Solve.

$$\text{_____} = 8 + 9$$

$$\text{_____} = 48 + 9$$

$$9 + 5 = \text{_____}$$

$$900 + 500 = \text{_____}$$

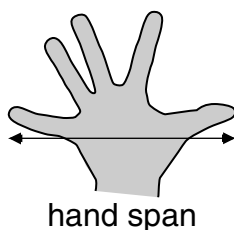
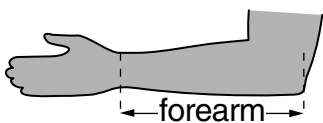
$$\text{_____} = 12 - 4$$

$$\text{_____} = 12,000 - 4,000$$

Body Measures

Work with a partner to find each measurement to the nearest $\frac{1}{4}$ inch.

	Adult at Home	Me (Now)	Me (Later)
Date	_____, ____	_____, ____	_____, ____
height	about _____ in.	about _____ in.	about _____ in.
shoe length	about _____ in.	about _____ in.	about _____ in.
around neck	about _____ in.	about _____ in.	about _____ in.
around wrist	about _____ in.	about _____ in.	about _____ in.
waist to floor	about _____ in.	about _____ in.	about _____ in.
forearm	about _____ in.	about _____ in.	about _____ in.
hand span	about _____ in.	about _____ in.	about _____ in.
arm span	about _____ in.	about _____ in.	about _____ in.
_____	about _____ in.	about _____ in.	about _____ in.
_____	about _____ in.	about _____ in.	about _____ in.
_____	about _____ in.	about _____ in.	about _____ in.



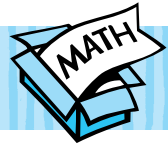
Estimating Lengths

- Follow these steps using **U.S. customary** units: inches (in.), feet (ft), or yards (yd). Then follow these steps using **metric** units: millimeters (mm), centimeters (cm), decimeters (dm), or meters (m).
 - Use personal references to estimate the measures.
 - Record your estimates. Be sure to write the units.
 - Measure with a ruler or tape measure. Record your measurements.

Objects	U.S. Customary Units		Metric Units	
	Estimate	Measurement	Estimate	Measurement
height of your desk				
long side of your calculator				
short side of the classroom				
distance around your head				

- Choose your own things to estimate and measure.

Objects	U.S. Customary Units		Metric Units	
	Estimate	Measurement	Estimate	Measurement



Math Boxes 3.3

1. Write the number that is
10 less 100 less 1,000 less

1,067 _____

1,593 _____

2,154 _____

6,163 _____



2. Measure to the nearest $\frac{1}{4}$ inch.

Draw a line segment $1\frac{1}{2}$ inches long.



3. Choose a 3-digit number and write at least five names for that number.



4. Fill in the missing amounts.

I had 38¢. I spent _____.
I have 15¢ left.

I had 54¢. I found _____.
Now I have 83¢.



5. $8 + 6 =$ _____

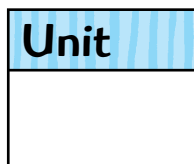
$8 + 6 + 7 =$ _____

$8 + 6 + 7 + 5 =$ _____

$$\begin{array}{r} 17 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 17 \\ 8 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 17 \\ 8 \\ 5 \\ + 19 \\ \hline \end{array}$$



6. Add. Show your work.

$$\begin{array}{r} 384 \\ + 675 \\ \hline \end{array}$$

$$\begin{array}{r} 8,916 \\ + 7,504 \\ \hline \end{array}$$



Perimeters of Polygons

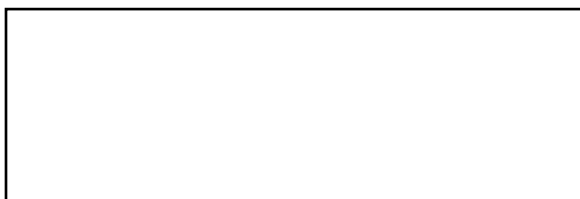
1. Record the **perimeter** (the distance around) of your straw rectangle and parallelogram.

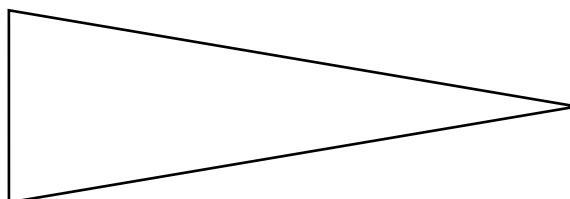
rectangle: about _____ inches parallelogram: about _____ inches

2. Use a tape measure to find each side and the perimeter.

Polygon	Each Side	Perimeter
triangle	about _____ in., about _____ in., about _____ in.	about _____ in.
triangle	about _____ in., about _____ in., about _____ in.	about _____ in.
square	about _____ in.	about _____ in.
rhombus	about _____ in.	about _____ in.
trapezoid	about _____ in., about _____ in. about _____ in., about _____ in.	about _____ in.

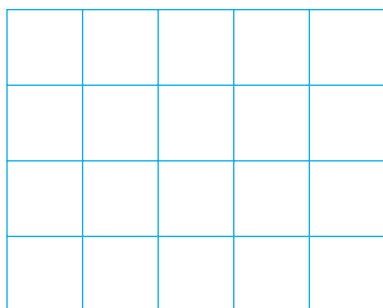
3. Find the perimeter, in inches, of the figures below.



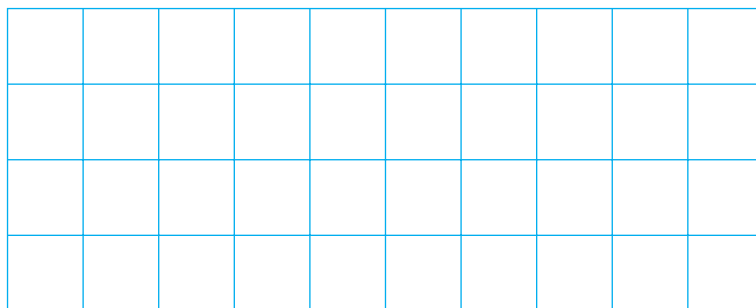


4. Draw each shape on the centimeter grid.

square with perimeter = 16 cm



rectangle with perimeter = 20 cm



Measures Hunt

Find out about how long some objects are.

These objects will be **personal references**.

Use your personal references to estimate the lengths of other things.

1. Find things that are about 1 inch long, 1 foot long, and 1 yard long.

Use a ruler, tape measure, or yardstick.

List your objects below.

About 1 inch (in.)

About 1 foot (ft)

About 1 yard (yd)

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

2. Find things that are about 1 centimeter long, 1 decimeter long, and 1 meter long.

Use a ruler, tape measure, or meterstick.

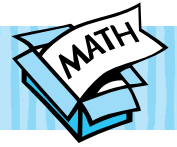
List your objects below.

About 1 centimeter (cm)

About 1 decimeter (dm)

About 1 meter (m)

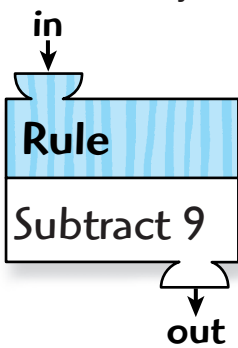
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____



Math Boxes 3.4

1. "What's My Rule?"

in	in	out
18		
		6
		4
16		

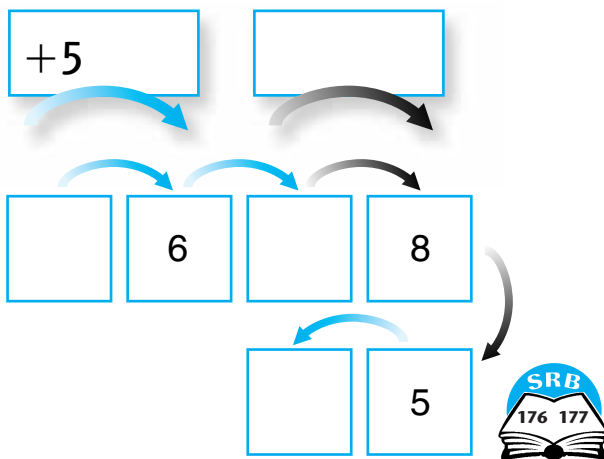


2. The driving distance between St. Louis and Denver is about 863 miles. If you go by way of Wichita, the distance is about 982 miles. How much farther is it to go by way of Wichita?

_____ miles farther



3. Fill in the empty frames and the rule box.



4. Subtract. Show your work.

Unit

buttons

$$\begin{array}{r} 704 \\ - 86 \\ \hline \end{array}$$

$$\begin{array}{r} 6,243 \\ - 2,948 \\ \hline \end{array}$$



5. Write $<$, $>$, or $=$.

$1\frac{1}{2}$ feet _____ 16 inches

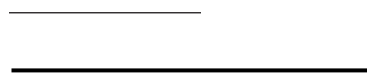
3 feet _____ 2 yards

5 feet _____ 60 inches

55 inches _____ 1 yard



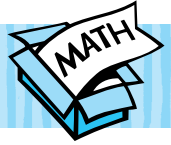
6. Measure to the nearest centimeter.



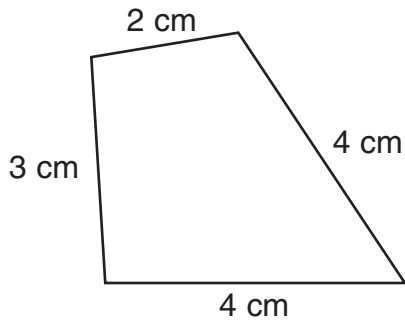
Draw a line segment 7 centimeters long.



Math Boxes 3.5



1. Find the perimeter.



perimeter = _____ (unit)



2. Measure to the nearest $\frac{1}{4}$ inch.

Draw a line segment $2\frac{1}{2}$ inches long.



3. Yuri saved \$24.85. He earned \$9.95 more. How much did he have then?



4. Write the equivalent lengths.

3 yards = _____ ft

_____ inches = 2 yards

50 millimeters = _____ centimeters

3 meters = _____ centimeters



5. Add.

$$9 + 22 + 11 = \underline{\hspace{2cm}}$$

$$13 + 17 + 16 = \underline{\hspace{2cm}}$$

$$24 + 6 + 9 = \underline{\hspace{2cm}}$$

6. Make a ballpark estimate to check that the answer makes sense.

$$492 + 108 = \underline{\hspace{2cm}}$$

about _____

$$\underline{\hspace{2cm}} = 648 + 209$$

about _____



Geoboard Perimeters

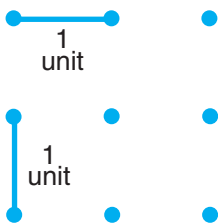
Materials □ geoboard and rubber bands, or geoboard dot paper

Work with a partner.

- Suppose that the distance between two pins is 1 unit. Make a rectangle with a perimeter of 14 units.

Use rubber bands and a geoboard, or draw the rectangle on dot paper.

Record the lengths of the sides in the table.

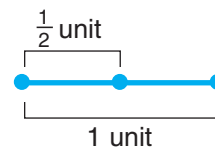


- Now make a different rectangle that also has a perimeter of 14 units. Record the lengths of the sides for this shape.
- Complete the table for other perimeters.
- Try to make a rectangle or square with a perimeter of 13 units.
- Try to make other rectangles or squares with perimeters that are an odd number of units.

Geoboard Perimeters		
Perimeter	Longer sides	Shorter sides
14 units	_____ units	_____ units
14 units	_____ units	_____ units
14 units	_____ units	_____ units
12 units	_____ units	_____ units
12 units	_____ units	_____ units
12 units	_____ units	_____ units
16 units	_____ units	_____ units
16 units	_____ units	_____ units
16 units	_____ units	_____ units
16 units	_____ units	_____ units

Challenge

Change the unit. Now 1 unit is double the distance between two points. Make a rectangle or square whose perimeter is an odd number of units.



Follow-Up

Look for a pattern in your table. Can you find one? Now, do not use a geoboard or dot paper. Find the lengths of the sides of a rectangle or square with a perimeter of 24 units. Then make or draw the shape to check your answer.

Tiling with Pattern Blocks

- Materials**
- pattern blocks: square, triangle, narrow rhombus
 - crayons

Work with a partner.

1. Use square pattern blocks. Look at the top rectangle on the next page. Cover as much of the rectangle as you can, placing all of the blocks inside it. There may be uncovered spaces at the edges. Do not overlap the blocks. Line them up so that there are no gaps. This is called “**tiling.**”
2. Count and record the number of blocks you used.
3. Trace around the edges of each block. Then color any spaces not covered by blocks. Estimate how many blocks would be needed to cover the colored spaces.
4. Record how many blocks are needed to cover the whole rectangle.
5. Tile the second rectangle with triangles. Repeat Steps 2–4 above.
6. Tile the third rectangle with narrow rhombuses. Repeat Steps 2–4 above.

Follow-Up

7. The **area** of a shape is a measure of the space inside the shape. You measured the area of a rectangle three ways: with squares, triangles, and narrow rhombuses. Record the areas below.

The area of the rectangle is about _____ squares.

The area of the rectangle is about _____ triangles.

The area of the rectangle is about _____ narrow rhombuses.

8. Which of the three pattern blocks has the largest area? _____

Which has the smallest area? _____

How did you decide? _____

Tiling with Pattern Blocks (cont.)

Cover this rectangle with squares.

About _____
squares cover the
whole rectangle.

Cover this rectangle with triangles.

About _____
triangles cover the
whole rectangle.

Cover this rectangle with narrow rhombuses.

About _____
narrow rhombuses
cover the whole
rectangle.

Straw Triangles

- Materials**
- 4-inch, 6-inch, and 8-inch straws
 - twist-ties

Work in a group to make as many different-size triangles as you can out of the straws and twist-ties. (Be sure that straws are touching at all ends.) Before you start, decide how you will share the work.

For each triangle, record the length of each side and the perimeter in the chart. The triangle made out of the shortest straws is already recorded.

Straw Triangles			
Side 1	Side 2	Side 3	Perimeter
4 in.	4 in.	4 in.	12 in.
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Follow-Up

Discuss these questions with others in your group.

- Which triangles have similar shapes?

- Which pairs of triangles have the same perimeter?

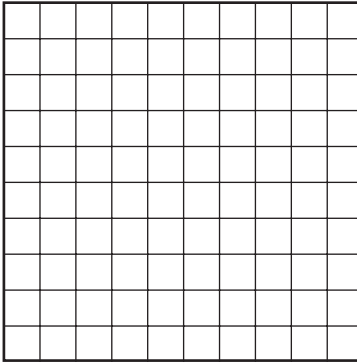
- By looking at your constructions, estimate which triangle of each pair of triangles in problem 2 has the larger area (space inside the triangles).

- What happens if you try to make a triangle out of two 4-inch straws and one 8-inch straw?

Areas of Rectangles

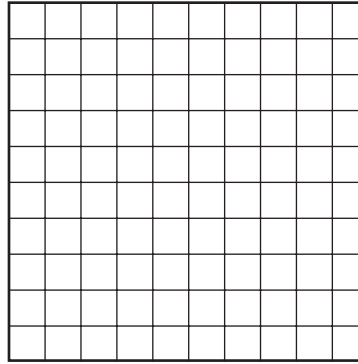
Draw each rectangle on the grid. Make a dot inside each small square in your rectangle.

1. Draw a 3-by-5 rectangle.



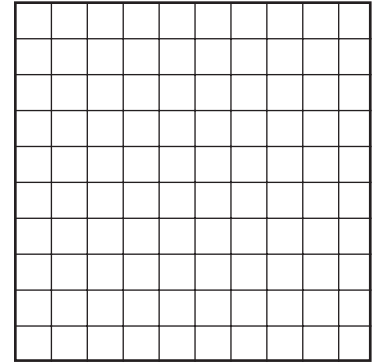
Area = _____ square units

2. Draw a 6-by-8 rectangle.



Area = _____ square units

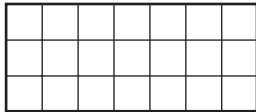
3. Draw a 9-by-5 rectangle.



Area = _____ square units

Fill in the blanks.

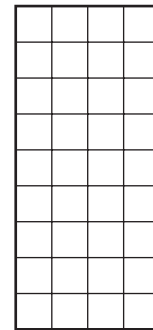
4.



This is a _____-by-_____ rectangle.

Area = _____ square units

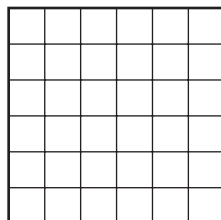
5.



This is a _____-by-_____ rectangle.

Area = _____ square units

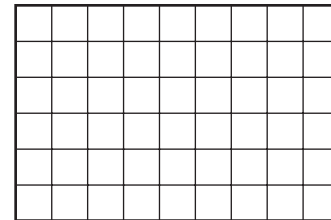
6.



This is a _____-by-_____ rectangle.

Area = _____ square units

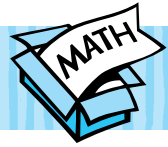
7.



This is a _____-by-_____ rectangle.

Area = _____ square units

Math Boxes 3.6



1. Put these numbers in order from smallest to largest:

47,912 _____ ← smallest

47,192 _____

49,271 _____

49,172 _____ ← largest



2. Solve.

$$\underline{\hspace{2cm}} = 7 + 9$$

$$\underline{\hspace{2cm}} = 37 + 9$$

$$16 - 8 = \underline{\hspace{2cm}}$$

$$76 - 8 = \underline{\hspace{2cm}}$$

$$6 + 5 = \underline{\hspace{2cm}}$$

$$600 + 500 = \underline{\hspace{2cm}}$$

Unit

3. There were 144 cartons of milk delivered to school. 84 of the cartons were chocolate milk. The rest were 2% milk. How many cartons of 2% milk were delivered?

_____ cartons



4. Subtract. Show your work.

$$\begin{array}{r} 384 \\ - 175 \\ \hline \end{array}$$

$$\begin{array}{r} 8,306 \\ - 7,574 \\ \hline \end{array}$$



5. When I left home, I had \$4.00. I spent 73¢ at the fruit stand and \$2.59 at the grocery store. How much did I spend in all?

How much do I have when I go home?



6. Measure to the nearest centimeter.

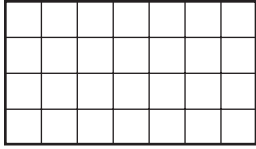
Draw a line segment 4 centimeters long.



More Areas of Rectangles

Make a dot inside each small square in one row. Then fill in the blanks.

1.



Squares in a row: _____

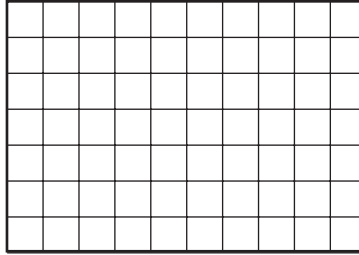
Number of rows: _____

Number model:

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

Area = _____ square units

2.



Squares in a row: _____

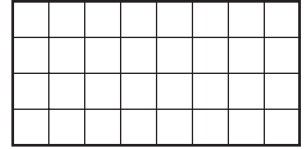
Number of rows: _____

Number model:

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

Area = _____ square units

3.



Squares in a row: _____

Number of rows: _____

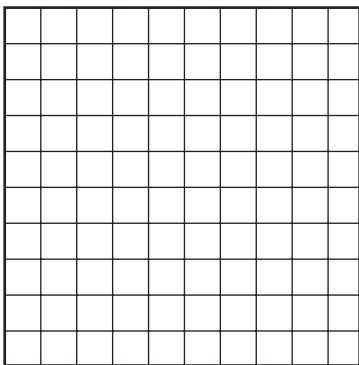
Number model:

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

Area = _____ square units

Now, draw the rectangle on the grid. Then fill in the blanks.

4. Draw a 5-by-7 rectangle.

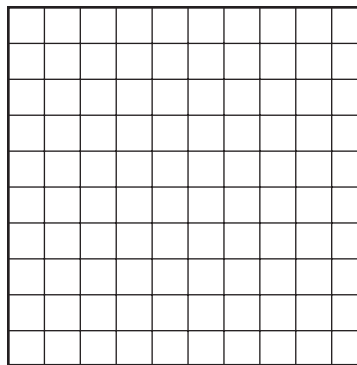


Number model:

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

Area = _____ square units

5. Draw an 8-by-8 rectangle.

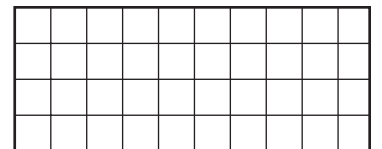


Number model:

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

Area = _____ square units

6. Draw a 3-by-9 rectangle.

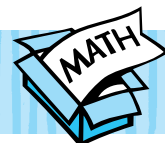


Number model:

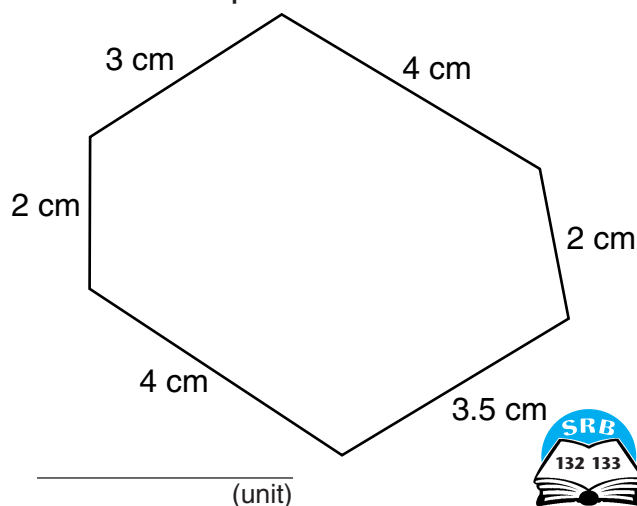
$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

Area = _____ square units

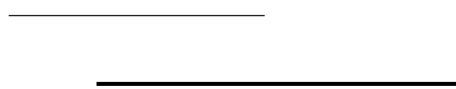
Math Boxes 3.7



1. What is the perimeter?



2. Measure to the nearest $\frac{1}{4}$ inch.



Draw a line segment $2\frac{3}{4}$ inches long.



3. At 7:00 A.M., the temperature was 23°F . At 10:00 A.M., the temperature was 40°F . How much warmer was it at 10:00 A.M. than at 7:00 A.M.?

_____ $^{\circ}\text{F}$ warmer



4. Write $<$, $>$, or $=$.

6 decimeters 60 millimeters

3 yards 36 inches

2 centimeters 4 meters

Write your own.

_____ _____



5. Complete the number story.

Amber ate _____ grapes.

Zack ate _____ grapes.

Sophie ate _____ grapes.

_____ grapes were eaten in all.



6. Add. Show your work.

$$\begin{array}{r} 38 \\ 698 \\ + 202 \\ \hline \end{array}$$

$$\begin{array}{r} 182 \\ 309 \\ 962 \\ + 745 \\ \hline \end{array}$$



Diameters and Circumferences

1. Find numbers on the label of your can. Write some of them below.
Also write the unit if there is one.

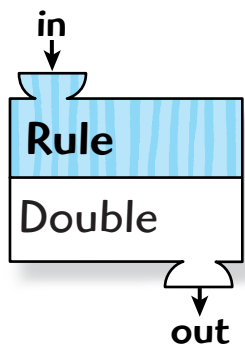
2. Record the diameter and circumference of your can.

can letter _____ **diameter:** about _____ cm **circumference:** about _____ cm

3. Write the rule linking diameter and circumference:

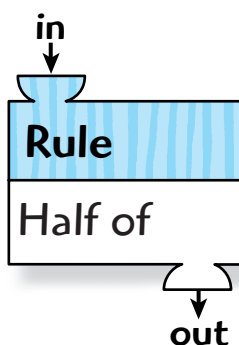
Review

4.



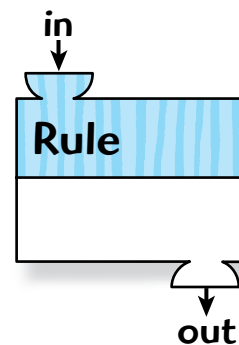
in	out
5	
50	
500	
5,000	

5.



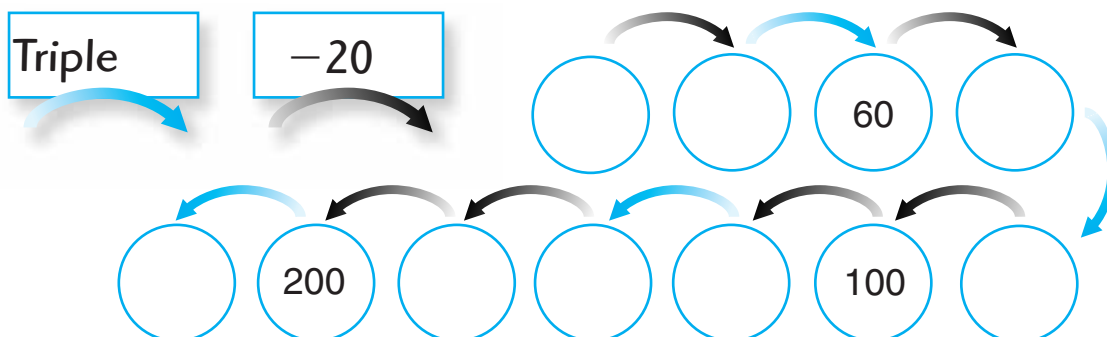
in	out
12	
120	
1,200	
12,000	

6.

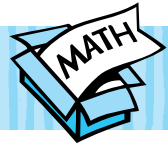


in	out
3	6
	20
5	10
70	
	400

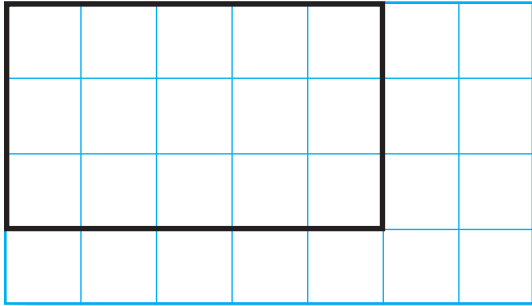
7.



Math Boxes 3.8



1.



Area: _____ square cm



2. Subtract.

$49 - 17 = \underline{\hspace{2cm}}$

$69 - 17 = \underline{\hspace{2cm}}$

$199 - 17 = \underline{\hspace{2cm}}$

$2,119 - 17 = \underline{\hspace{2cm}}$

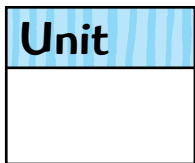
$9,139 - 17 = \underline{\hspace{2cm}}$

3. Find the total value.

4 \$13 Q6 D2 N7 P

Total \$ _____

4. Subtract. Show your work.

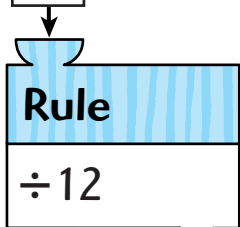


$$\begin{array}{r} 563 \\ - 294 \\ \hline \end{array}$$

$$\begin{array}{r} 807 \\ - 429 \\ \hline \end{array}$$



5.

 in. ft

in.	ft
12	1
36	
	4
	2



6. Measure to the nearest millimeter.

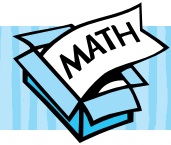
Draw a line segment 20 millimeters long.



Units of Linear Measure

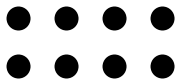
Choose a U.S. customary unit and a metric unit for each object.
Put a check in the box.

	U.S. Customary				Metric			
	in.	ft	yd	mi	mm	cm	m	km
thickness of a magazine								
length of hair								
diameter of a quarter								
height of a building								
distance to Paris								
length of a baseball bat								
circumference of a telephone pole								
perimeter of a baseball diamond								
depth of a lake								
Make up your own.								



Math Boxes 3.9

1. How many rows? _____
 How many columns? _____
 How many dots in all? _____



2. There are 3 cars. 4 people are riding in each car. How many people in all?
 _____ people



3. 2 children share 12 toys equally. How many toys does each child get?
 _____ toys



4. Each child has 4 lollipops. There are 16 lollipops. How many children are there?
 _____ children



5. Three children share 10 sticks of gum equally. How many sticks does each child get?
 _____ stick(s)
 How many sticks are left over?
 _____ stick(s)



6. $5 \times 0 =$ _____
 $1 \times 8 =$ _____
 $2 \times 3 =$ _____
 _____ $= 5 \times 3$
 _____ $= 4 \times 10$



Solving Multiplication Number Stories

Use the Variety Store Poster on page 239 of the *Student Reference Book*.

For each number story:

- Fill in a multiplication/division diagram with the numbers you know. Write ? for the number you need to find.
- Use counters, draw pictures, or do whatever helps you find the answer.
- Record the answer with its unit. Check whether your answer makes sense.

1. Yosh has 4 boxes of mini stock cars.
How many cars does he have?

Answer: _____
(unit)

boxes	cars per box	total number of cars

2. How many cards are in 5 packages of file cards?

Answer: _____
(unit)

packages	cards per package	total number of cards

3. Claire buys 8 packages of fashion pens.
How many pens does she have?

Answer: _____
(unit)

packages	pens per package	total number of pens

4. If your mother buys 2 packages of bright shoelaces, how many pairs of shoelaces does she buy?

Answer: _____
(unit)

packages	pairs of shoelaces per package	total number of pairs of shoelaces

Bonus: About how much do the 2 packages cost? _____

Writing Multiplication Number Stories

Write 2 multiplication stories. For each story:

- Fill in the multiplication/division diagram. Write ? for the number you need to find.
- Use counters, draw pictures, or do whatever helps you find the answer.
- Record your answer with its unit. Check whether your answer makes sense.

1.

Answer: _____
(unit)

2.

Answer: _____
(unit)

Measuring Line Segments

Use your ruler to measure each line segment.

Measure to the nearest $\frac{1}{2}$ inch.

1. _____

about _____ inches

2. _____

about _____ inches

3. _____

about _____ inches

Measure to the nearest $\frac{1}{4}$ inch.

4. _____

about _____ inches

5. _____

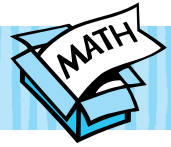
about _____ inches

Measure as precisely as you can.

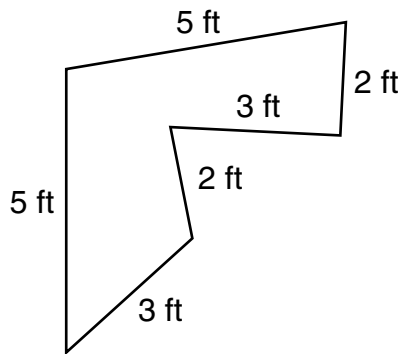
6. _____

about _____ inches

Math Boxes 4.1



1. Find the perimeter.



Perimeter = _____ (unit)



2. Measure to the nearest $\frac{1}{4}$ inch.

Draw a line segment $1\frac{1}{4}$ inches long.



3. Solve.

$$12,469 + 10 = \underline{\hspace{2cm}}$$

$$12,469 + 100 = \underline{\hspace{2cm}}$$

$$12,469 + 1,000 = \underline{\hspace{2cm}}$$

$$12,469 + 10,000 = \underline{\hspace{2cm}}$$



4. Write $<$, $>$, or $=$.

3 decimeters _____ 30 millimeters

$1\frac{1}{2}$ yards _____ 24 inches

45 centimeters _____ 1 meter

9 feet _____ 3 yards



5. Circle the names that belong in the box.

56

$$100 - 44 \quad 93 - 27 \quad 33 + 13$$

$$86 - 30 \quad 8 \times 7 \quad 26 + 30$$

$$46 + 15 \quad 20 + 20 + 16$$



6. What is the total value of the coins?

6 $\text{\textcircled{Q}}$

4 $\text{\textcircled{D}}$

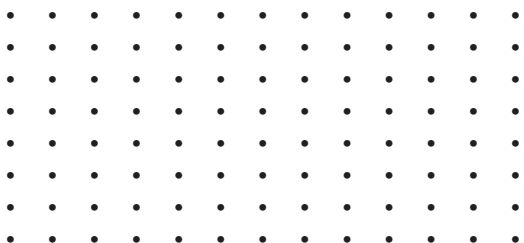
3 $\text{\textcircled{N}}$

2 $\text{\textcircled{P}}$

Total value: \$ _____

More Multiplication Number Stories

- Fill in the multiplication/division diagram.
 - Make an array with counters. Mark the dots to show the array.
 - Find the answer. Write the unit with your answer. Write a number model.
1. Mrs. Kwan has 3 boxes of scented markers. Each box has 8 markers. How many markers does she have?

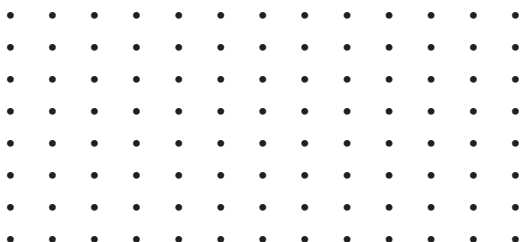


boxes	markers per box	total number of markers

Answer: _____
(unit)

Number model: _____

2. Monica keeps her doll collection in a case with 5 shelves. On each shelf there are 6 dolls. How many dolls are in Monica's collection?

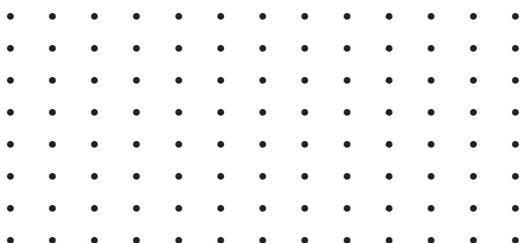


shelves	dolls per shelf	total number of dolls

Answer: _____
(unit)

Number model: _____

3. During the summer Jack mows lawns. He can mow 4 lawns per day. How many lawns can he mow in 7 days?



days	lawns per day	total number of lawns

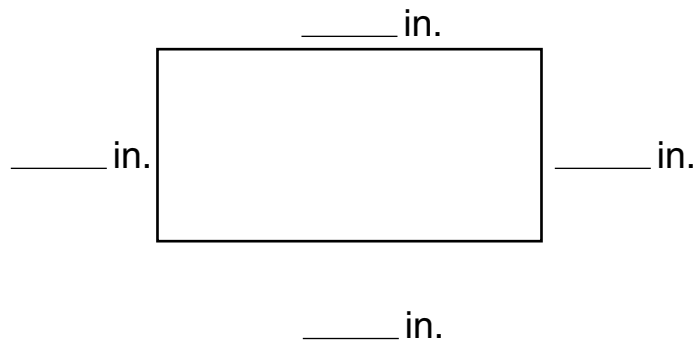
Answer: _____
(unit)

Number model: _____

Perimeter

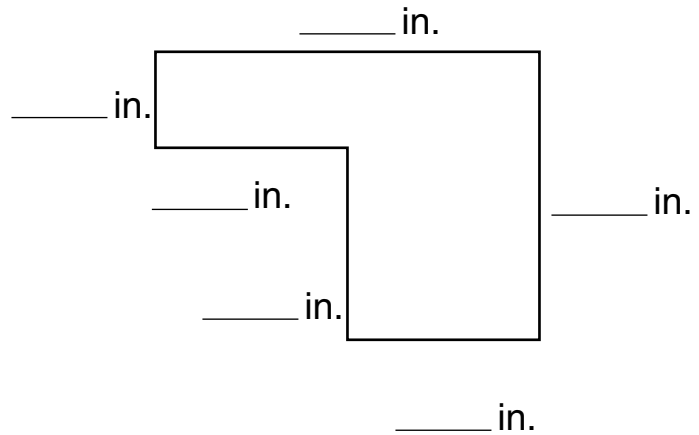
Measure the perimeter in inches of each figure.

1.



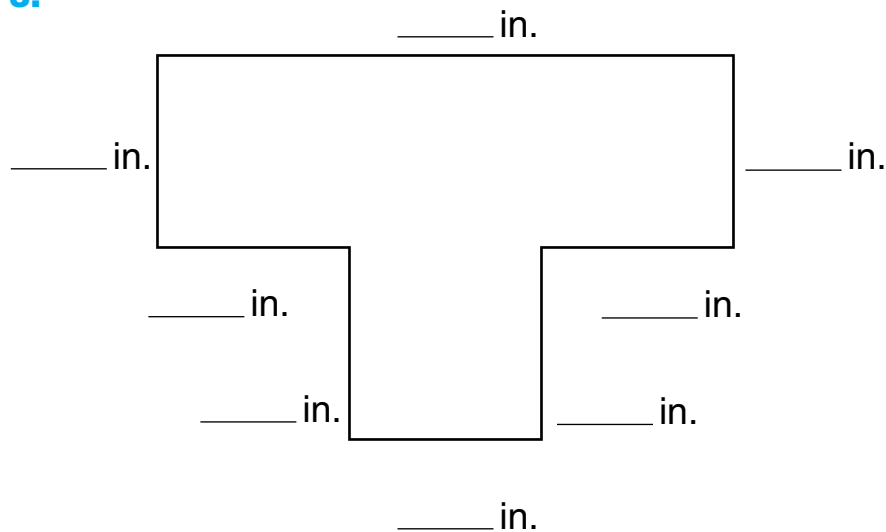
Perimeter: _____ inches

2.



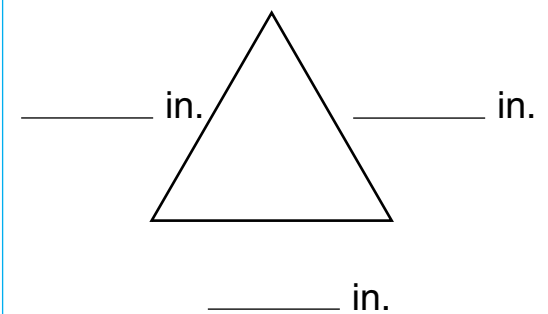
Perimeter: _____ inches

3.



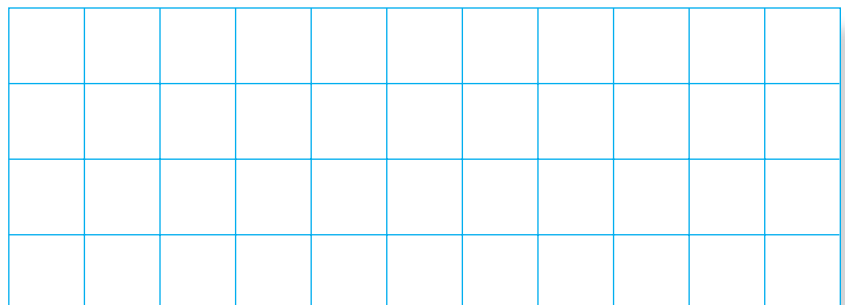
Perimeter: _____ inches

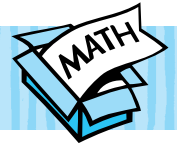
4.



Perimeter: _____ inches

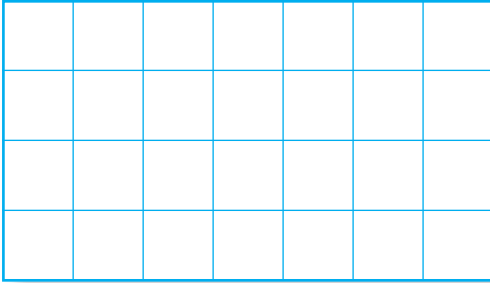
5. Draw any figure with a perimeter of 20 centimeters.





Math Boxes 4.2

1. Draw a 2×4 rectangle.



Number model: $\underline{\quad} \times \underline{\quad} = \underline{\quad}$

Area: $\underline{\quad}$ square units



2. 10 packs of gum on the shelf in the candy store. 8 sticks of gum per pack.
How many sticks of gum in all?

packs	sticks of gum per pack	total number of sticks of gum



3. Fill in the numbers.

1,002; 1,001; 1,000; $\underline{\hspace{2cm}}$;

$\underline{\hspace{2cm}}$; $\underline{\hspace{2cm}}$

14,116; 14,117; 14,118; $\underline{\hspace{2cm}}$;

$\underline{\hspace{2cm}}$; $\underline{\hspace{2cm}}$

5,097; 5,098; $\underline{\hspace{2cm}}$; $\underline{\hspace{2cm}}$;

$\underline{\hspace{2cm}}$; $\underline{\hspace{2cm}}$

4. Fill in the number grid.

2,946			



5. Put these units of measure in order from smallest to largest.

mile $\underline{\hspace{2cm}}$

foot $\underline{\hspace{2cm}}$

yard $\underline{\hspace{2cm}}$

inch $\underline{\hspace{2cm}}$



6. Measure to the nearest centimeter.

$\underline{\hspace{10cm}}$

$\underline{\hspace{4cm}}$

Draw a line segment 5 centimeters long.



Division Practice

Use counters to find the answers. Fill in the blanks.

16 cents shared equally

1. by 2 people:

_____ ¢ per person

_____ ¢ remaining

2. by 3 people:

_____ ¢ per person

_____ ¢ remaining

3. by 4 people:

_____ ¢ per person

_____ ¢ remaining

25¢ shared equally

4. How many people get 5¢?

_____ people

_____ ¢ remaining

5. How many people get 3¢?

_____ people

_____ ¢ remaining

6. How many people get 6¢?

_____ people

_____ ¢ remaining

30 stamps shared equally

7. by 10 people:

_____ stamps per person

_____ stamps remaining

8. by 5 people:

_____ stamps per person

_____ stamps remaining

9. by 6 people:

_____ stamps per person

_____ stamps remaining

10. 21 days
7 days per week

_____ weeks

_____ days remaining

11. 32 crayons
6 crayons per box

_____ boxes of crayons

_____ crayons remaining

12. 24 eggs
6 eggs per row

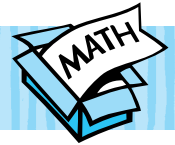
_____ rows of eggs

_____ eggs remaining

13. There are 18 counters in an array. There are 6 rows.

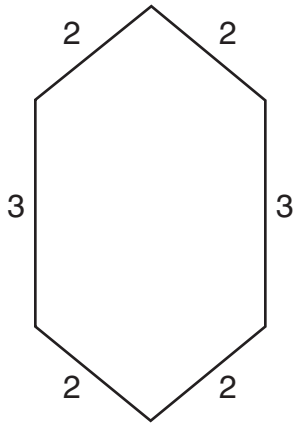
How many counters are in each row? _____ counters per row

14. Five children share 12 markers equally. How many markers does each child get? _____ markers _____ markers remaining



Math Boxes 4.3

1. Find the perimeter.



Unit
cm

_____ cm

This shape is a _____.



2. Make a 4-by-4 array. Complete the number model.



_____ × _____ = _____



3. Solve.

$45,582 - 10 =$ _____

$45,582 + 100 =$ _____

$45,582 + 1,000 =$ _____

$45,582 - 10,000 =$ _____



4. Put these metric units of measure in order from smallest to largest.

centimeter _____

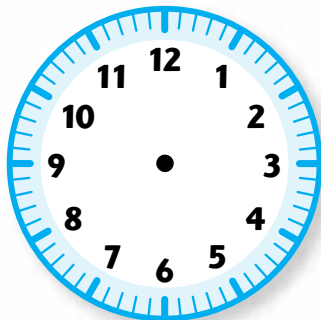
kilometer _____

millimeter _____

meter _____

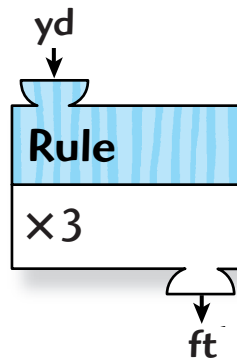


5. Draw the hands to show 10:20.



How many minutes until 11:10? _____

6. Complete.



yd	ft
2	
5	
	9
	30



Solving Multiplication and Division Number Stories

Solve each number story. Use counters, draw an array, or do whatever helps you find the answer. Fill in the diagrams and write number models.

1. Robert has 3 packages of pencils. There are 12 pencils in each package. How many pencils does Robert have in all?

Answer: _____
(unit)

packages	pencils per package	total number of pencils

Number model: _____

2. Robert gives 3 pencils to each of his friends. How many friends will get 3 pencils each?

Answer: _____
(unit)

friends	pencils per friend	total number of pencils

Number model: _____

3. What if Robert shares his pencils equally among himself and 11 friends? How many pencils does each child get?

Answer: _____
(unit)

Robert and friends	pencils per friend	total number of pencils

Number model: _____

4. A class of 30 children wants to play ball. How many teams can be made with exactly 6 children on each team?

Answer: _____
(unit)

teams	children per team	total number of children

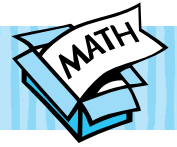
Number model: _____

5. The same class of 30 children wants to have exactly 4 children on each team. How many teams can be made?

Answer: _____
(unit)

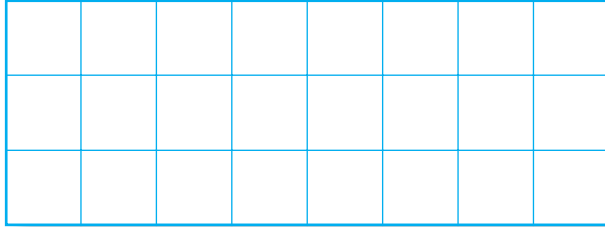
teams	children per team	total number of children

Number model: _____



Math Boxes 4.4

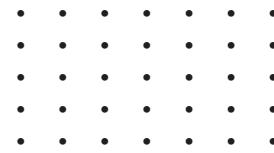
1. Draw a shape with an area of 9 square centimeters.



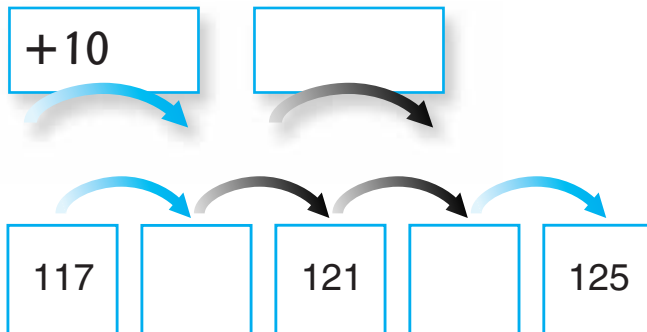
2. Draw an array and complete a number model to match the diagram.

packs	cards per pack	total number of cards
3	6	?

Number model: _____



3. Fill in the rule and the empty frames.



4. Scientists studying green turtles counted 136 eggs in a clutch of eggs. 87 eggs did not hatch.

How many eggs did hatch?

_____ eggs



5. Add. Show your work.

Unit

$$\begin{array}{r} 478 \\ + 236 \\ \hline \end{array}$$

$$\begin{array}{r} 309 \\ + 2,047 \\ \hline \end{array}$$



6. Write $<$, $>$, or $=$.

$$3 + 8 + 7 \quad \underline{\hspace{1cm}} \quad 4 + 8 + 6$$

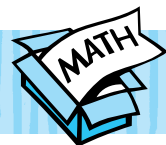
$$7 + 7 + 9 \quad \underline{\hspace{1cm}} \quad 9 + 9 + 5$$

$$9 + 1 + 8 \quad \underline{\hspace{1cm}} \quad 11 + 5 + 3$$

$$8 + 8 + 8 \quad \underline{\hspace{1cm}} \quad 15 + 5 + 7$$

$$5 + 35 + 17 \quad \underline{\hspace{1cm}} \quad 15 + 18 + 25$$





Math Boxes 4.5

1. Use counters to solve.

Some children are sharing 22 marbles equally. Each child gets 6 marbles.

How many children are sharing?

_____ (unit)

How many marbles are left over?

_____ (unit)



2. Draw Xs in a 5-by-9 array.

How many Xs? _____

Write a number model for the array.



3. Subtract. Show your work.

$$\begin{array}{r} 406 \\ - 46 \\ \hline \end{array}$$

$$\begin{array}{r} 5,168 \\ - 2,936 \\ \hline \end{array}$$

Unit

4. Add.

_____ = 47 + 192

_____ = 147 + 292

_____ = 247 + 392



5. Fill in the unit box. Write the missing number in the diagram.

Start	Change	End
	+107	392

Write a number model.

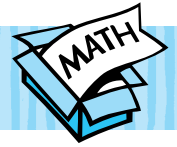
_____ + _____ = _____



6. Measure to the nearest $\frac{1}{4}$ inch.

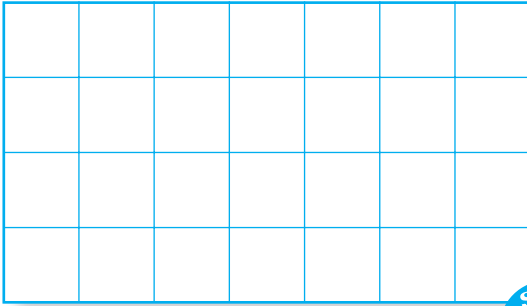
Draw a line segment 3 inches long.





Math Boxes 4.6

1. On the centimeter grid below, draw a shape with an area of 12 square centimeters.



2. Write a multiplication story by filling in the blanks.

8 rows of _____

6 _____ in each row

How many _____
in all?

Write a number model.



3. Solve.

$$2 \times 9 = \underline{\quad}$$

$$4 \times 0 = \underline{\quad}$$

$$\underline{\quad} = 66 \times 1$$

$$7 \times \underline{\quad} = 70$$

$$\underline{\quad} = 5 \times 8$$



4. Write the number sixteen thousand, three hundred two.

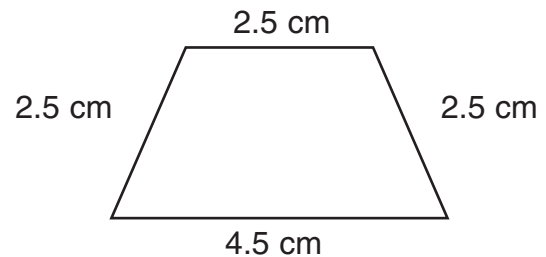
Write the words for 12,015.



5. Justin bought 2 gallons of milk. Each gallon cost \$2.79. He paid with a \$10 bill. How much change did he receive?

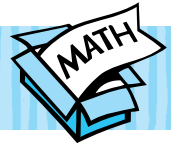


6. Find the perimeter of the trapezoid.



Perimeter: _____
(unit)





Math Boxes 4.7

1. Make equal groups.

30 days

make _____ weeks

with _____ days left over.

56 pennies

make _____ quarters

with _____ pennies left over.



2. Draw a 6-by-3 array.



What is the number model?

_____ \times _____ = _____



3. Solve.

$2 \times 2 =$ _____

$16 = 4 \times$ _____

$3 \times 4 =$ _____

$5 \times 6 =$ _____

$18 =$ _____ $\times 3$

$7 \times 4 =$ _____



4. Write the \times, \div fact family for the numbers 3, 8, and 24.

$24 =$ _____ \times _____

$24 =$ _____ \times _____

_____ $= 24 \div$ _____

_____ $=$ _____ \div _____



5. Add. Show your work.

Unit

Unit

$$\begin{array}{r} 881 \\ + 746 \\ \hline \end{array}$$

$$\begin{array}{r} 6,709 \\ + 448 \\ \hline \end{array}$$



6. There are 46 trees and 25 flowers. How many more trees are there than flowers?

_____ trees

Write a number model.



How Many Dots?

Materials square pattern blocks

calculator

1. Estimate how many dots are in the array at the right.

About _____ dots

Make another estimate.

Follow these steps:

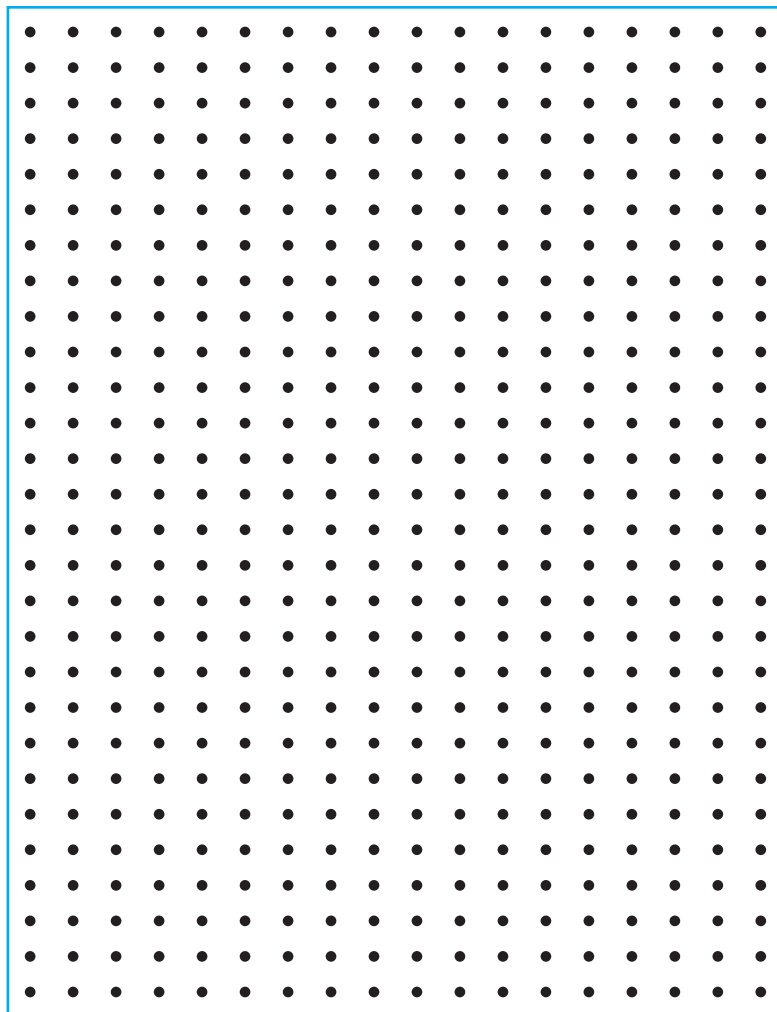
2. Cover part of the array with a square pattern block. About how many dots can you cover with one block?

_____ dots

3. Cover the array. Use as many square pattern blocks as you can. Do not go over the borders of the array. How many blocks did you use?

_____ blocks

4. Use the information in Steps 2 and 3 to estimate the total number of dots in the array. About _____ dots

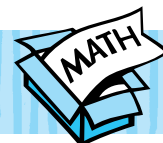


Challenge

5. Try to find the exact number of dots in the array. Use a calculator to help you. Total number of dots = _____.

Follow-Up

Describe how you found the exact number of dots. _____



Math Boxes 4.8

1. Measure to the nearest centimeter.

Draw a line segment 6 centimeters long.



2. Complete.

_____ days in a week

_____ days in two weeks

_____ days in three weeks

_____ days in four weeks



3. Solve.

$$2 \times 7 = \underline{\quad}$$

$$8 \times 0 = \underline{\quad}$$

$$\underline{\quad} = 24 \times 1$$

$$5 \times \underline{\quad} = 50$$

$$\underline{\quad} = 5 \times 5$$



4. Complete.

$$20 \text{ dimes} = \$\underline{\hspace{2cm}}$$

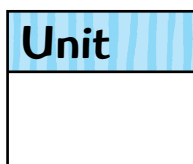
$$20 \text{ nickels} = \$\underline{\hspace{2cm}}$$

$$20 \text{ quarters} = \$\underline{\hspace{2cm}}$$

$$10 \text{ quarters and 7 dimes} =$$

$$\$ \underline{\hspace{2cm}}$$

5. Subtract. Show your work.



$$\begin{array}{r} 904 \\ - 368 \\ \hline \end{array}$$

$$\begin{array}{r} 731 \\ - 53 \\ \hline \end{array}$$



6. Add.

$$15 + 15 + 13 = \underline{\quad}$$

$$34 + 16 + 12 = \underline{\quad}$$

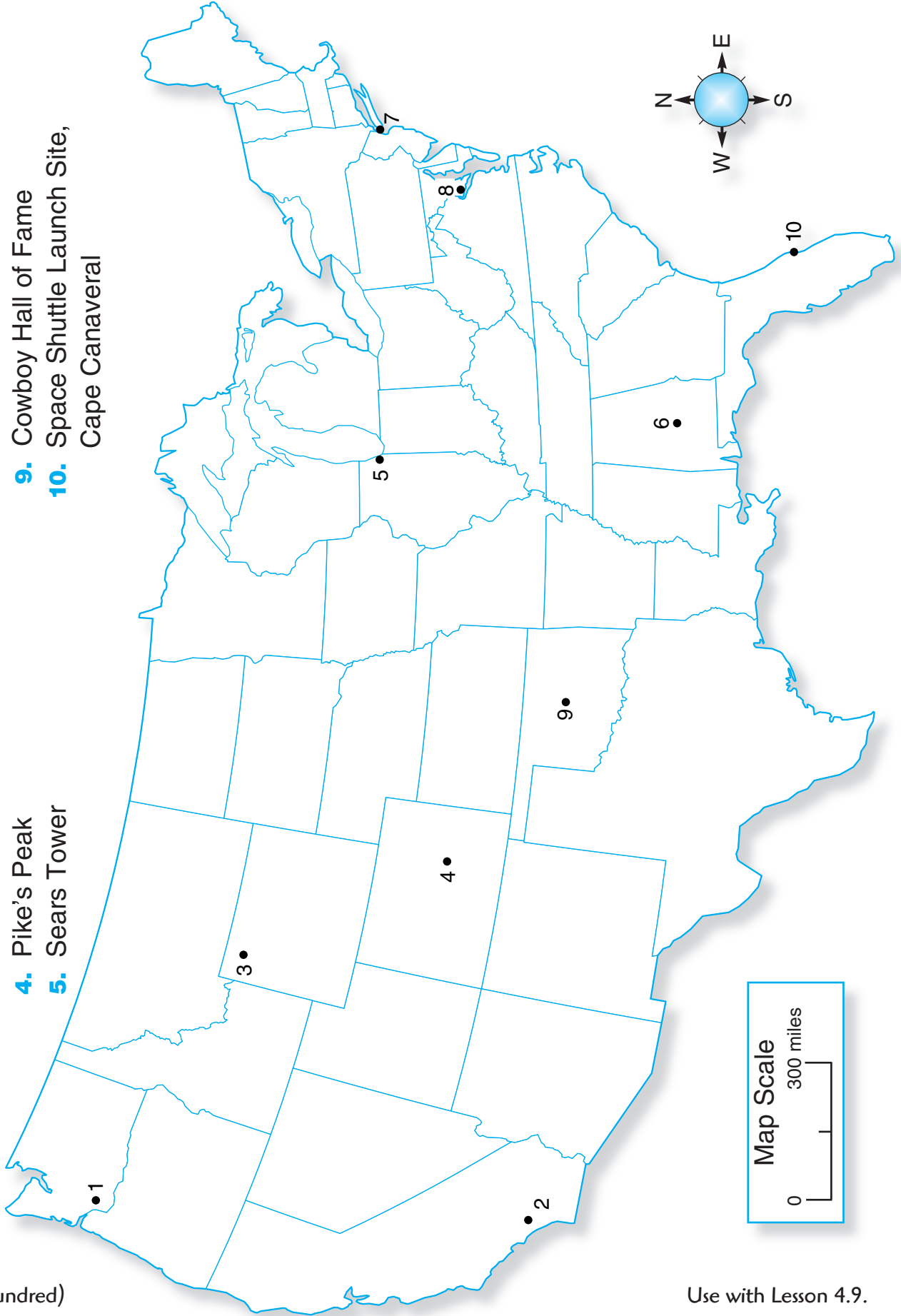
$$23 + 13 + 17 = \underline{\quad}$$

$$21 + 14 + 19 = \underline{\quad}$$

Estimating Distances

Locations to Visit

- 1. Mt. St. Helens
- 2. Disneyland
- 3. Yellowstone National Park
- 4. Pike's Peak
- 5. Sears Tower
- 6. Civil Rights Memorial
- 7. Statue of Liberty
- 8. White House
- 9. Cowboy Hall of Fame
- 10. Space Shuttle Launch Site, Cape Canaveral



A Pretend Trip

Pretend you want to take a trip to see some of the sights in the United States. Find out about how far it is between locations.

1. The Statue of Liberty is number _____.

The Sears Tower is number _____.

The distance between them is about _____ inches on the map.

That is about _____ miles.

2. Pike's Peak is number _____.

The White House is number _____.

The distance between them is about _____ inches on the map.

That is about _____ miles.

3. Yellowstone National Park is number _____.

The Cowboy Hall of Fame is number _____.

The distance between them is about _____ inches on the map.

That is about _____ miles.

4. The Civil Rights Memorial is number _____.

Disneyland is number _____.

The distance between them is about _____ inches on the map.

That is about _____ miles.

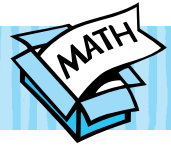
5. Make up one of your own.

_____ is number _____.

_____ is number _____.

The distance between them is about _____ inches on the map.

That is about _____ miles.



Math Boxes 4.9

1. Use counters to solve.

18 marbles are shared equally.
Each child gets 5 marbles.
How many children are sharing?

_____ (unit)

How many marbles are left over?

_____ (unit)



2. Draw an array of 28 Xs arranged in 4 rows.

How many Xs in each row? _____
Write a number model for the array.



3. Solve.

$$3 \times \underline{\quad} = 9$$

$$\underline{\quad} = 4 \times 5$$

$$2 \times 6 = \underline{\quad}$$

$$35 = 7 \times \underline{\quad}$$

$$4 \times 6 = \underline{\quad}$$

$$8 = \underline{\quad} \times 2$$



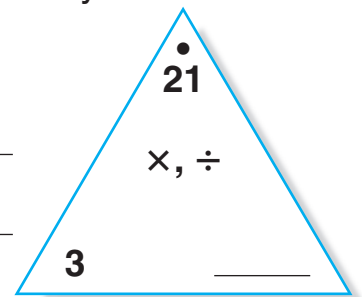
4. Complete the Fact Triangle.
Write the fact family.

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

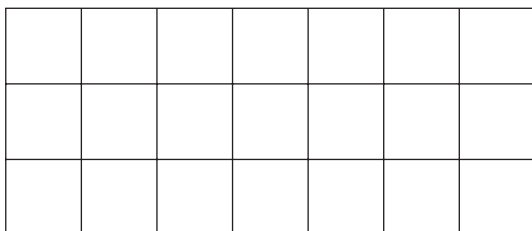
$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$

$$\underline{\quad} \div \underline{\quad} = \underline{\quad}$$



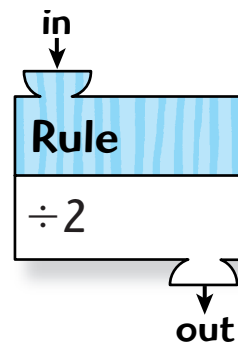
5. Solve. Each square equals 1 sq cm.



Area: _____ square centimeters



6. Complete.



in	out
8	
16	
	10
50	



Place-Value Review

Follow the steps to find each number in Problems 1 and 2.

- 1.** Write 6 in the ones place.

Write 4 in the thousands place.

Write 9 in the hundreds place.

Write 0 in the tens place.

Write 1 in the ten-thousands place.

_____ , _____

- 2.** Write 6 in the tens place.

Write 4 in the ten-thousands place.

Write 9 in the ones place.

Write 0 in the hundreds place.

Write 1 in the thousands place.

_____ , _____

- 3.** Compare the two numbers you wrote in Problems 1 and 2.

Which is greater? _____

- 4.** Complete.

The 9 in 4,965 stands for 9 hundreds or 900.

The 7 in 87,629 stands for 7 _____ or _____.

The 4 in 48,215 stands for 4 _____ or _____.

The 0 in 72,601 stands for 0 _____ or _____.

Continue the counts.

- 5.** 4,707; 4,708; 4,709; _____; _____; _____

- 6.** 7,697; 7,698; 7,699; _____; _____; _____

- 7.** 903; 902; 901; _____; _____; _____

- 8.** 6,004; 6,003; 6,002; _____; _____; _____

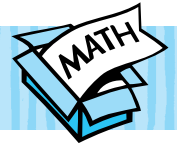
- 9.** 47,265; 47,266; 47,267; _____; _____; _____

Write the number that is 1,000 more.

- 10.** 6,583 _____ **11.** 9,990 _____ **12.** 39,510 _____

Write the number that is 1,000 less.

- 13.** 6,583 _____ **14.** 9,990 _____ **15.** 20,000 _____



Math Boxes 5.1

1. 13 crayons are shared equally among 3 children.

How many crayons does each child get? _____ (unit)

How many crayons are left over?

_____ (unit)



2. If a map scale shows that 1 inch represents 200 miles, then

2 inches represents _____ miles

3 inches represents _____ miles

5 inches represents _____ miles

7 inches represents _____ miles



3. Fill in the unit box. Then multiply.

Unit

$2 \times 5 = \underline{\quad}$

$7 \times 3 = \underline{\quad}$

$\underline{\quad} = 5 \times 5$

$\underline{\quad} = 2 \times 7$

$\underline{\quad} = 4 \times 6$



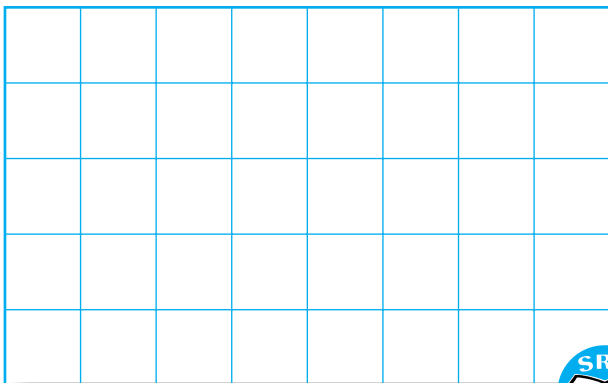
4. Complete the number-grid puzzles.

98		

		400



5. Draw a figure with a perimeter of 12 centimeters.

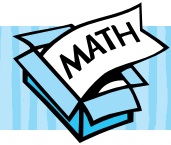


6. The “about 3 times” circle rule:
For any circle, the circumference is about 3 times the diameter.

Unit
inches

diameter	circumference
8	
10	
50	





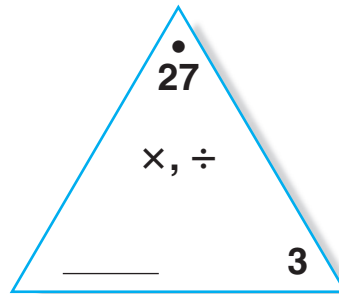
Math Boxes 5.2

1. Write the number. This number has
- 7 thousands
 - 8 tens
 - 5 ten-thousands
 - 1 one
 - 0 hundreds

_____, _____



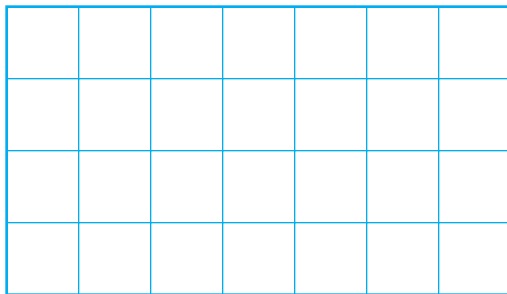
2. Complete the Fact Triangle and write the fact family.



$___ \times ___ = ___$
 $___ \times ___ = ___$
 $___ \div ___ = ___$
 $___ \div ___ = ___$



3. Draw a 4×6 rectangle.



Number model: $___ \times ___ = ___$

Area: _____ square units



4. Write a multiplication story by filling in the blanks.

8 rows.

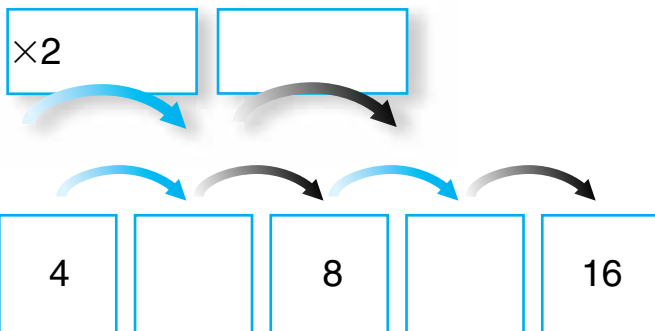
5 _____ in each row.

How many in all? _____

Write a number model.



5. Fill in the rule and then the empty frames.



6. Fill in the unit box. Write the missing number in the diagram. Write a number model.

Total	
426	
Part	Part
285	

Unit



Working with Populations

10 U.S. Cities with the Largest Populations		
	1980*	1995*
New York, NY	7,071,639	7,380,906
Los Angeles, CA	2,968,528	3,553,638
Chicago, IL	3,005,072	2,721,547
Houston, TX	1,611,382	1,744,058
Philadelphia, PA	1,688,210	1,478,002
San Diego, CA	875,538	1,171,121
Phoenix, AZ	790,183	1,159,014
San Antonio, TX	785,940	1,067,816
Dallas, TX	1,007,618	1,053,292
Detroit, MI	1,027,974	1,000,272

*U.S. Census data

Use this table to solve the problems.

1. List the cities that gained population from 1980 to 1995.

2. List the cities that lost population from 1980 to 1995.

3. Look at your answers to Problem 1. Name a city where the population increased by

a. more than 100,000 **b.** about 100,000 **c.** less than 100,000

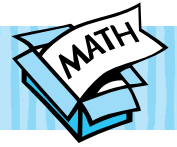
4. In 1980, which two cities had a population about half that of

Houston, TX? _____

5. In 1995, which city had a population about double that of

Philadelphia, PA? _____

6. Which city had the smallest change in population? _____



Math Boxes 5.4

1. For the number 5,749,862

the 4 means 40,000

the 5 means _____

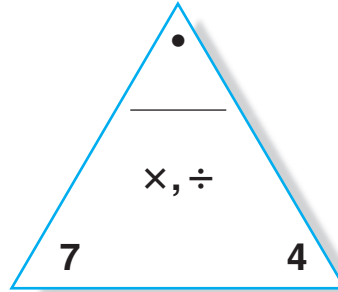
the 8 means _____

the 7 means _____

the 9 means _____



2. Complete the Fact Triangle and write the fact family.



_____ × _____ = _____

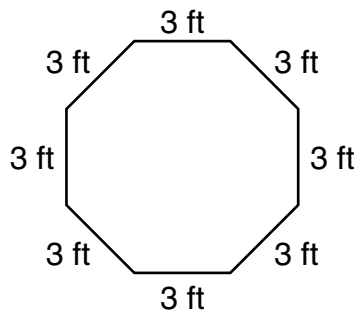
_____ × _____ = _____

_____ ÷ _____ = _____

_____ ÷ _____ = _____



3. Find the perimeter.



Perimeter = _____ (unit)



4. Teesha has 345 marbles. Keiko has 279 marbles. How many fewer marbles does Keiko have than Teesha?

_____ marbles



5. Write a division story by filling in the blanks.

There are 48 _____ in 6 rows.

How many _____ are in each row? _____

Write a number model.



6. Measure to the nearest centimeter.

Draw a line segment 4.5 centimeters long.



How Old Am I?

1. On what date were you born? _____
2. How old were you on your last birthday? _____ years old
3. About how many minutes old do you think you were on your last birthday? Make an X next to your guess.

_____ between 10,000 and 100,000 minutes

_____ between 100,000 and 1,000,000 minutes

_____ between 1,000,000 and 10,000,000 minutes

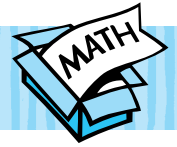
Use your calculator.

4. **a.** About how many days old were you on your last birthday? Do not include any leap year days. _____
- b.** That's about how many hours? _____
- c.** That's about how many minutes? _____

Challenge

Adding Leap Year Days

5. **a.** List all of the leap years from the time you were born to your last birthday. _____
- b.** That adds how many extra days to your last birthday? _____
- c.** How many extra minutes? _____
6. Add the number of extra minutes to the number of minutes in your answer in Problem 4c. How many minutes are there in all? _____
7. On my last birthday, I was about _____ minutes old.



Math Boxes 5.5

1. Circle the largest number.
Underline the smallest number.

1,099,999

697,432

697,500

697,490

1,110,000

697,433



2. If a map scale shows that 1 in. represents 50 miles, then

_____ in. represents 200 miles

_____ in. represents 300 miles

9 in. represents _____ miles

11 in. represents _____ miles



3. Circle the number that is about 10,000 less than 30,000.

56,023

21,004

35,900

15,999



4. Fill in the unit box. Then multiply.

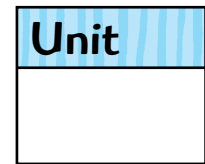
$$4 \times 3 = \underline{\quad}$$

$$2 \times 7 = \underline{\quad}$$

$$\underline{\quad} = 5 \times 7$$

$$\underline{\quad} = 2 \times 5$$

$$\underline{\quad} = 6 \times 5$$



5. Body-plus-tail lengths (inches) for 13 cats:

30, 29, 28, 24, 29, 35, 16, 27,
29, 36, 28, 31, 32

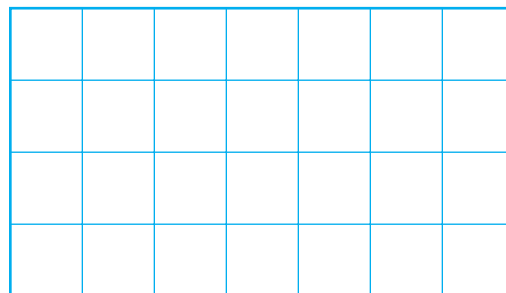
Median = _____

Maximum = _____



6. Draw a shape with an area of 16 square units.

How many sides does your shape have? _____ sides



Finding the Value of Base-10 Blocks

Materials classroom supply of base-10 blocks

Work in a group.

1. Estimate the value of the base-10 blocks. Don't let anyone in your group see your estimate.

Estimate: _____

2. Plan how your group will find the actual value of the blocks and what each person will do to help. Then carry out your plan. Describe your job.

3. What is the actual value of the base-10 blocks? _____

4. Write the estimates of your group and the actual value of the base-10 blocks in order from smallest to largest. Circle the actual value of the base-10 blocks.

5.
 - a. Which estimate was closest to the actual value? _____
 - b. How many estimates were higher than the closest estimate? _____
 - c. How many estimates were lower than the closest estimate? _____
 - d. How far was the highest estimate from the actual value? _____
 - e. How far was the lowest estimate from the actual value? _____
6. How does your estimate compare to the actual value? _____
7. If you have extra time, put part of the block supply to the side.

First estimate its value and then find its actual value.

Squares, Rectangles, and Triangles

Materials

□ straightedge

A
•

H •

• E

D •

• B

G •

• F

•
C

Work on your own or with a partner.

- Use your straightedge to draw line segments between points A and B , B and C , C and D , and D and A .

What kind of shape did you draw? _____

- Now draw line segments between points E and F , F and G , G and H , and H and E .

What kind of shape did you draw? _____

- Draw line segments between points E and G and between points F and H .

How many different sizes of squares are there? _____

How many squares in all? _____

- How many different sizes of triangles are there? _____

How many triangles in all? _____

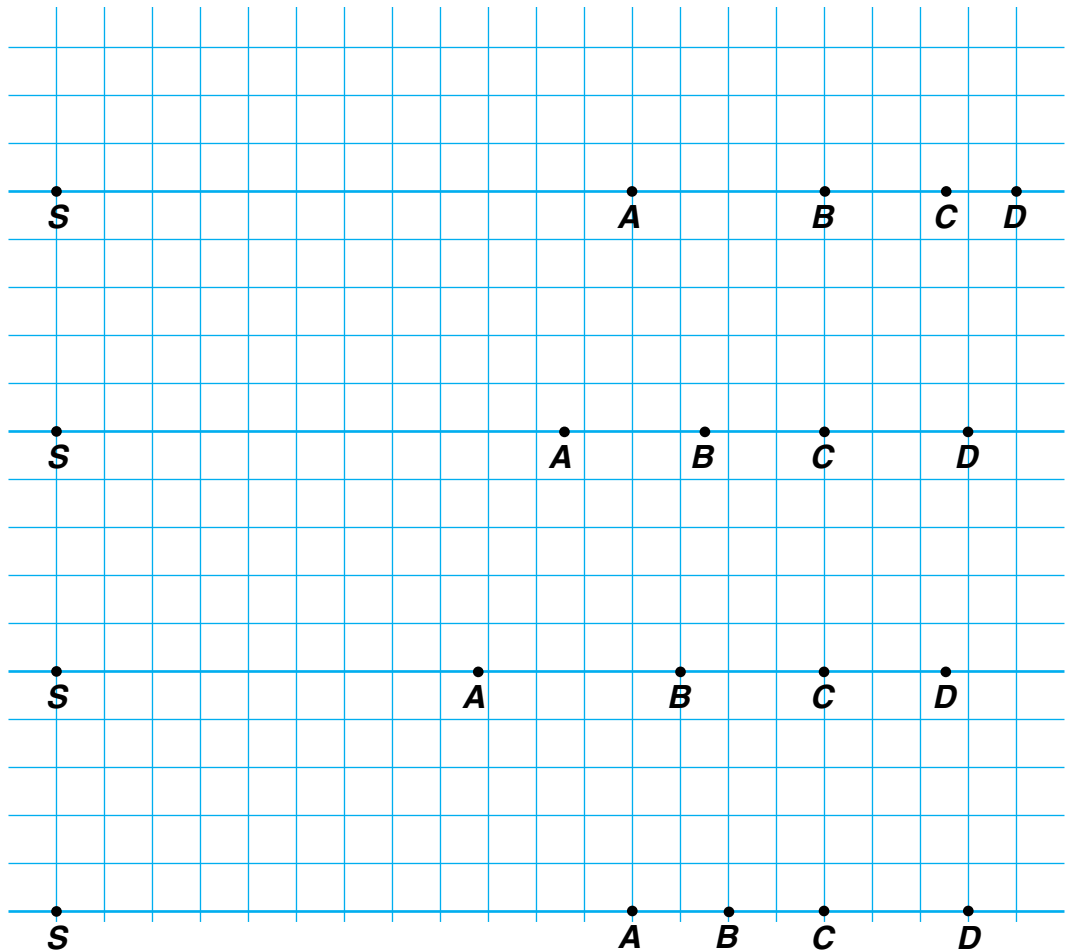
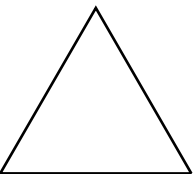
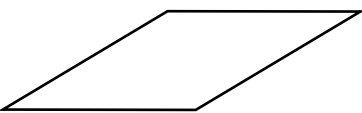
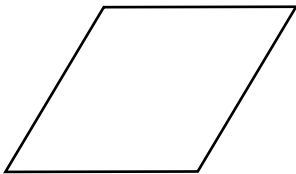
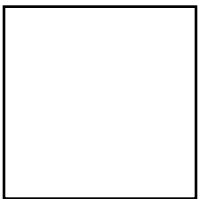
- How many rectangles are there that are not squares? _____

Pattern-Block Perimeters

Materials □ pattern blocks: square, large rhombus, small rhombus, triangle

Work on your own or with a partner.

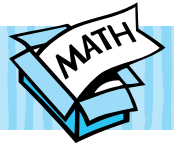
- Imagine that each polygon is “rolled” along a line, starting at point *S*. Estimate the distance each polygon will “roll” after 1 full turn. Mark an *X* at the point you think the polygon will reach.
- Check your estimate by “rolling” a pattern block that matches the polygon. Circle the point reached by the pattern block.



- Which 3 shapes have about the same perimeter? _____

- Which of these 3 shapes do you think has the largest area? _____

- Which of the 4 shapes do you think has the smallest area? _____



Math Boxes 5.6

1. In the number 6,940,173

the 9 means 900,000

the 6 means _____

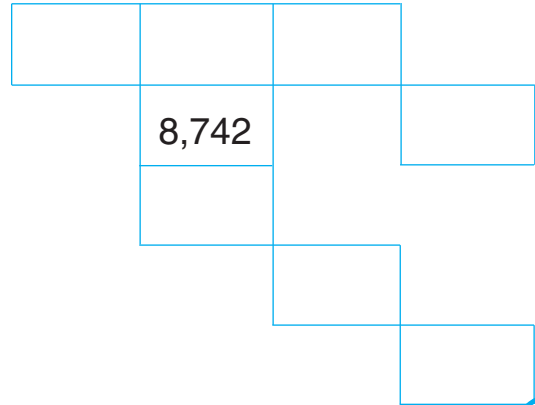
the 1 means _____

the 4 means _____

the 7 means _____



2. Complete the number-grid puzzle.

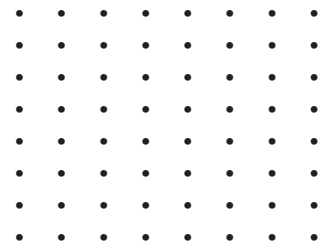


3. Use your calculator.

Enter	Change to	How?
894	12,894	
1,366	966	
627,581	628,581	
43,775	43,175	



4. Draw a 7-by-6 array.

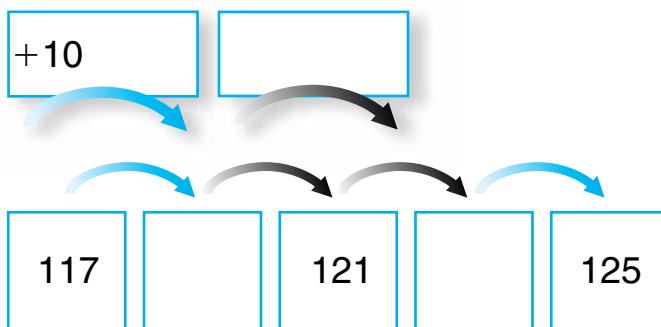


What is the number model?

$$\underline{\quad} \times \underline{\quad} = \underline{\quad}$$



5. Fill in the rule and then fill in the empty frames.

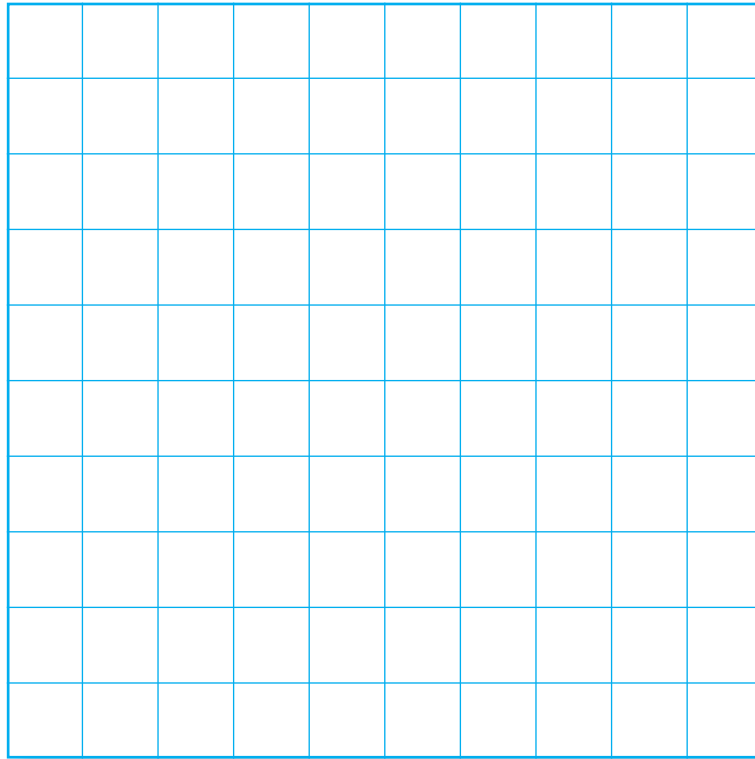


6. Add.

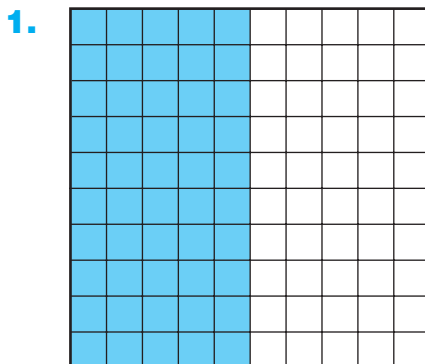
$$\begin{array}{r} 28 \\ 374 \\ + 101 \\ \hline \end{array} \qquad \begin{array}{r} 72 \\ 407 \\ 283 \\ + 19 \\ \hline \end{array}$$



Place Value in Decimals

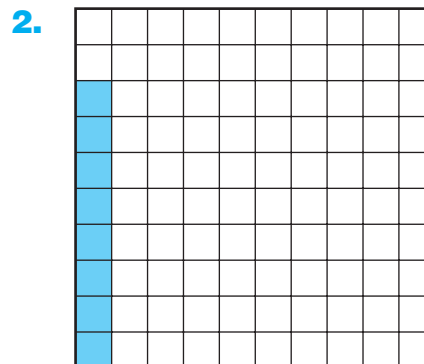


If the grid is ONE, then which part of each grid is shaded?
Write a decimal and a fraction below each grid.



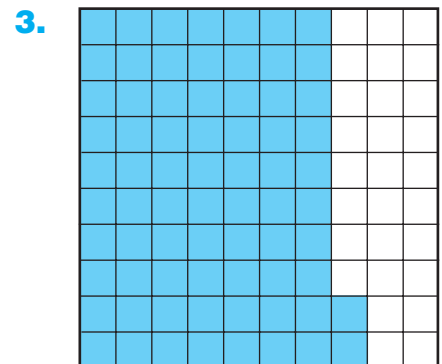
fraction: _____

decimal: _____



fraction: _____

decimal: _____



fraction: _____

decimal: _____

Place Value in Decimals (cont.)

4. Which decimal in each pair is greater? Use the grids in Exercises 1–3 to help you.

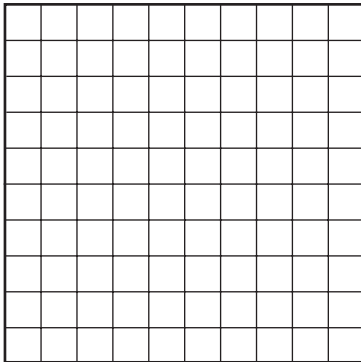
0.5 or 0.08 _____

0.08 or 0.72 _____

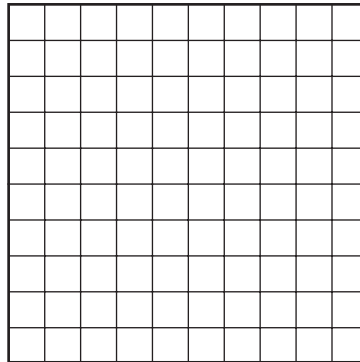
0.5 or 0.72 _____

Color part of each grid to show the decimal named.

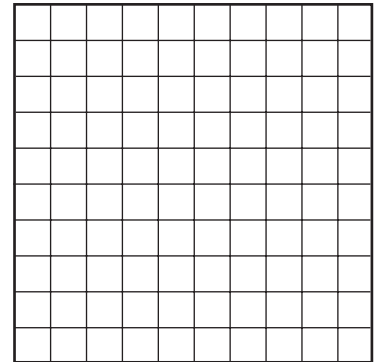
5. Color 0.7 of the grid.



6. Color 0.07 of the grid.



7. Color 0.46 of the grid.



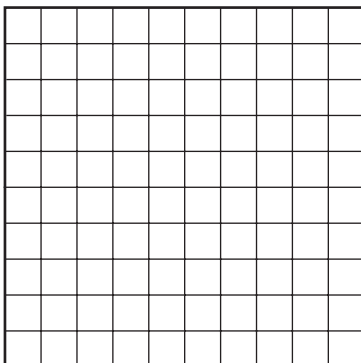
8. Write 0.7, 0.07, and 0.46 in order from smallest to largest.

Use the grids in Exercises 5–7 to help you. _____

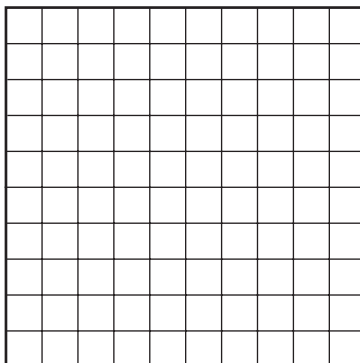
Challenge

Color part of each grid to show the fraction named.

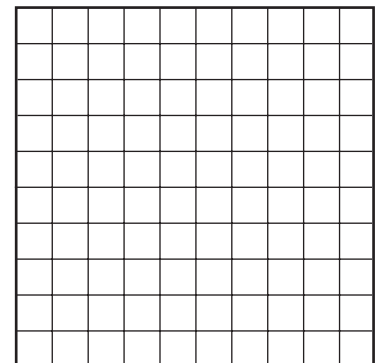
9. Color $\frac{4}{10}$ of the grid.



10. Color $\frac{1}{2}$ of the grid.

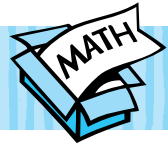


11. Color $\frac{23}{100}$ of the grid.



12. Write $\frac{23}{100}$ as a decimal. _____

Math Boxes 5.7



1. Circle the largest number.
Underline the smallest number.

2,999,999

946,487

946,800

946,793

4,000,007

946,200



2. If a map scale shows that 1 cm represents 25 miles, then

_____ cm represents 125 miles

_____ cm represents 200 miles

_____ cm represents 375 miles

20 cm represents _____ miles



3. Solve.

Double 2 _____

Double 10 _____

Double 75 _____

Double 1,000 _____

Double 1,500 _____

4. Fill in the unit box.
Then multiply.

Unit

$4 \times 5 = \underline{\quad}$

$2 \times 6 = \underline{\quad}$

$3 \times 5 = \underline{\quad}$

$\underline{\quad} = 7 \times 4$

$\underline{\quad} = 6 \times 5$



5. Ages of 9 teachers:

30, 24, 49, 50, 38, 44, 40, 35, 51

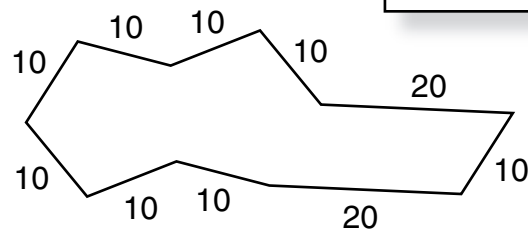
Median = _____

Maximum = _____



6. Find the perimeter.

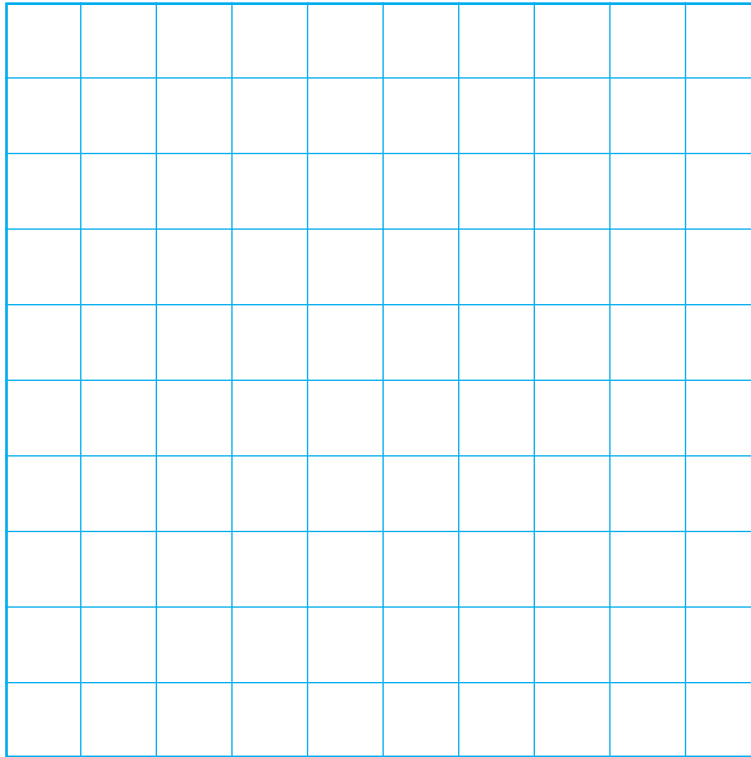
Unit
yards



Perimeter: _____ (unit)

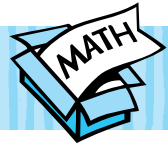


Exploring Decimals



A	B	C	D
<u>27</u> hundredths	<u>2</u> tenths, <u>7</u> hundredths	0. <u>27</u>	$\frac{27}{100}$
_____ hundredths	_____ tenths, _____ hundredths	0. _____	
_____ hundredths	_____ tenths, _____ hundredths	0. _____	
_____ hundredths	_____ tenths, _____ hundredths	0. _____	
_____ hundredths	_____ tenths, _____ hundredths	0. _____	
_____ hundredths	_____ tenths, _____ hundredths	0. _____	
_____ hundredths	_____ tenths, _____ hundredths	0. _____	

Math Boxes 5.8



1. For the number 4,963,521

4 means 4,000,000

3 means _____

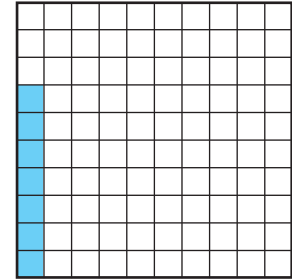
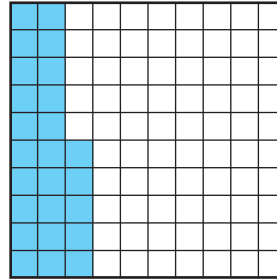
1 means _____

6 means _____

9 means _____



2. If each grid is ONE, what part of each grid is shaded? Write the decimal.





3. Solve.

$$\begin{array}{r} 3,976 \\ - 1,439 \\ \hline \end{array}$$

$$\begin{array}{r} 6,840 \\ - 5,695 \\ \hline \end{array}$$

$$\begin{array}{r} 14,256 \\ - 3,661 \\ \hline \end{array}$$



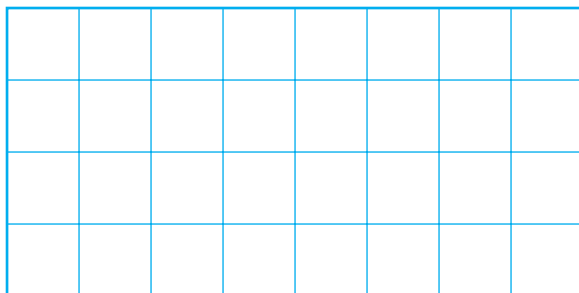
4. How many slices does each person get if 64 slices of pizza are shared equally among 4 people?

Answer: _____ (unit)

Number model:



5. Draw a 3×7 rectangle.

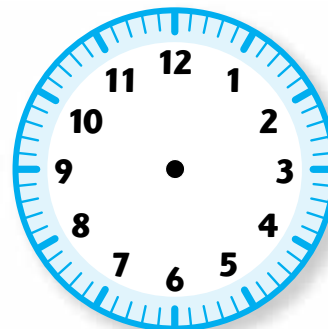


Number model: $___ \times ___ = ___$

Area: _____ square units



6. Draw the hands to show 5:50.



How long until 8:30?

_____ hours _____ minutes

Decimals for Metric Measurements

1. Fill in the missing information. Put longs and cubes end to end on a meterstick to help you.

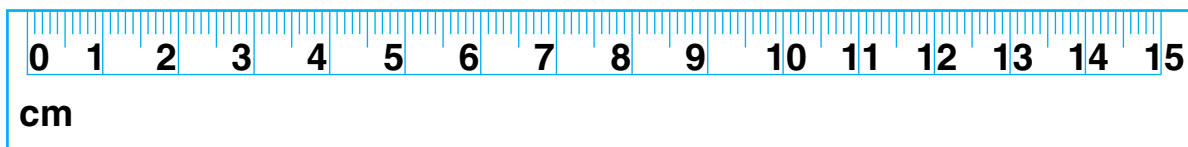
Length in Centimeters	Number of Longs	Number of Cubes	Length in Meters
24 cm	<u>2</u>	<u>4</u>	<u>0.24</u> m
36 cm	_____	_____	_____ m
_____ cm	0	3	_____ m
8 cm	_____	_____	_____ m
_____ cm	_____	_____	0.3 m
_____ cm	4	3	_____ m

Work with a partner. Each partner uses base-10 blocks to make one length in each pair. Compare the lengths and circle the one that is greater.

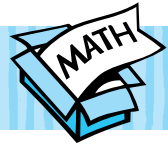
2. 0.18 or 0.5 3. 0.2 or 0.08 4. 0.09 or 0.12
 5. 0.24 or 0.42 6. 0.10 or 0.02 7. 0.3 or 0.24

Follow these directions on the ruler below.

8. Make a dot at 4 cm and label it with the letter *A*.
 9. Make a dot at 0.1 m and label it with the letter *B*.
 10. Make a dot at 0.15 m and label it with the letter *C*.
 11. Make a dot at 0.08 m and label it with the letter *D*.



Math Boxes 5.9



1. Put these numbers in order from smallest to largest.

998,752 _____

1,000,008 _____

750,999 _____

1,709,832 _____



2. Write the number that has
2 in the ones place
6 in the tenths place
7 in the hundredths place

_____ . _____



3. Solve.

Double 6 _____

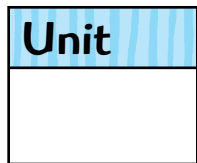
Double 24 _____

Double 59 _____

Double 113 _____

Double 642 _____

4. Fill in the unit box.
Then multiply.



_____ = 3×3

_____ = 4×6

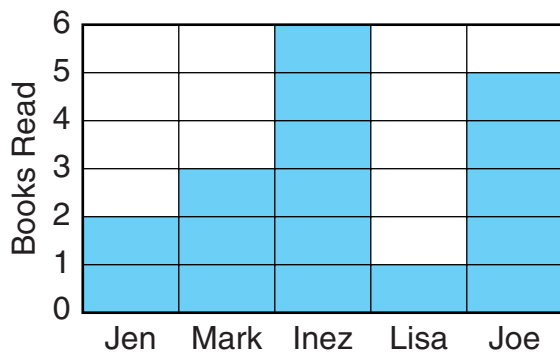
$5 \times 5 =$ _____

$3 \times 6 =$ _____

$2 \times 4 =$ _____



5. Median number of books read? _____
Maximum number of books read? _____

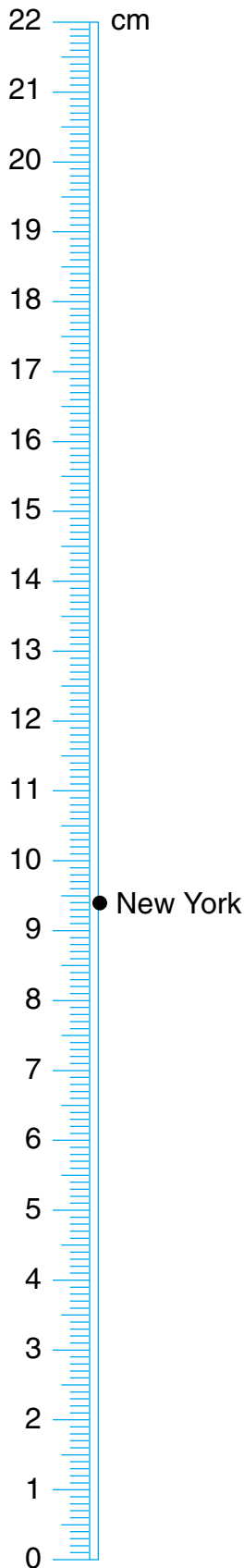


6. 7 boxes. 7 cans per box.
How many cans in all?
_____ cans

9 cars. 3 people per car.
How many people in all?
_____ people



How Wet? How Dry?



1. Use the scale at the left and the map on page 245 of the *Student Reference Book*. Make a dot for the level of precipitation in each of the following cities: Phoenix, Helena, Denver, Cleveland, and Asheville. Write the name of the city next to the dot.
2. Which city gets about 2 centimeters less rain than New York?

3. Which city gets about half as much rain as Denver?

4. Which city gets about 5 times as much rain as Helena?

5. A decimeter is 10 centimeters. Which cities on the map get at least 1 decimeter of rain?

Did You Know?

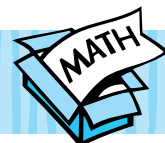
According to the National Geographic Society, the rainiest place in the world is Mount Waialeale in Hawaii. It rains an average of about 1,170 centimeters a year on Mount Waialeale.

Challenge

6. Suppose it rained 1,170 centimeters in your classroom. Would the water reach the ceiling?

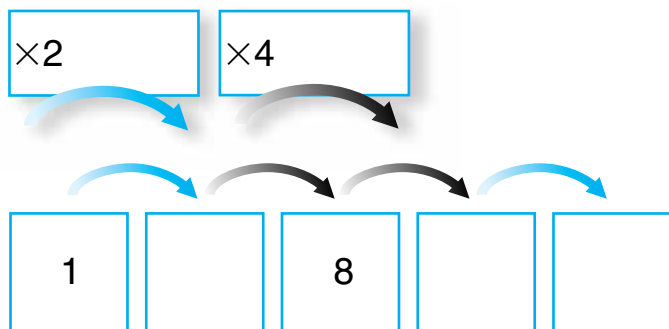
_____ millimeters = 1,170 centimeters = _____ meters

Answer: _____

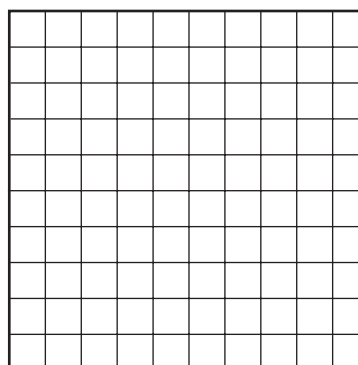


Math Boxes 5.10

1. Complete the Frames and Arrows.



2. Color 0.6 of the grid.



3. Complete.

2 hours = _____ minutes

5 weeks = _____ days

3 hours = _____ minutes

2 years = _____ days



4. Circle any measurements in Column B that match the one in Column A.

Column A	Column B
2 feet	12 in. 3 yd
	24 in. 1 yd
3 feet	36 in. 1 m
	1 yd 30 in.
2 yards	50 in. 72 in.
	6 ft 9 ft



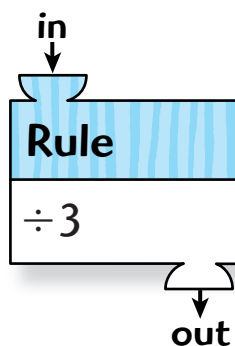
5. Add.

$$\begin{array}{r} 3 \\ 96 \\ 104 \\ + 327 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ 33 \\ 333 \\ + 3,333 \\ \hline \end{array}$$



6. Complete.



in	out
9	
15	
	7
	10



More Decimals

Use your place-value tool to help you.

Write the number that matches each description.

1. 4 in the tenths place

2 in the thousandths place

7 in the hundredths place

0 in the ones place

2. 5 in the tenths place

3 in the tens place

5 in the ones place

3 in the hundredths place

3. 4 in the thousandths place

2 in the ones place

7 in the hundredths place

0 in the tenths place

4. 0 in the hundredths place

6 in the ones place

8 in the thousandths place

0 in the tenths place

5. With your partner, decide how to read each of the decimals in Problems 1–4.

Write each number below as a decimal.

6. nine-tenths _____

7. thirty-thousandths _____

8. fifty-three hundredths _____

9. sixty and four-tenths _____

10. seven and seven-thousandths _____

11. sixty and four-hundredths _____

12. eight hundred _____

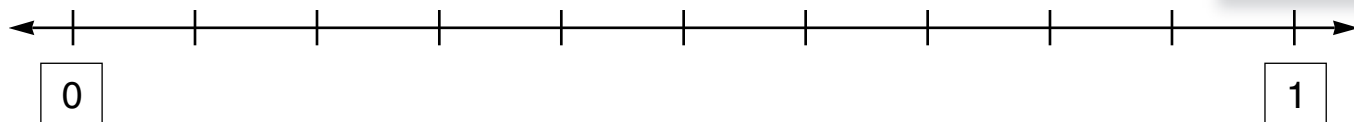
13. sixty-two thousandths _____

Fill in the missing numbers.

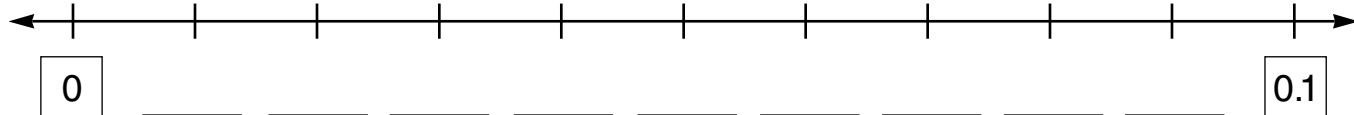
Unit

meter

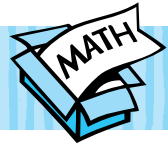
14.



15.

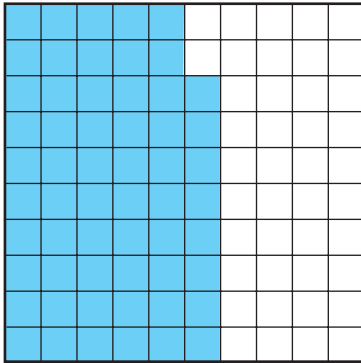


Math Boxes 5.11



1. How much of this grid is shaded?

____ • _____



2. Write the number that has
4 in the tenths place
0 in the hundredths place
6 in the ones place
9 in the thousandths place

____ • _____



3. Circle the number that is about
1 million less than 6 million.

50,023

6,900,800

4,986,500

3,090,222



4. Fill in the unit box.
Then multiply.

Unit

$3 \times 5 = \underline{\quad}$

$4 \times 6 = \underline{\quad}$

$\underline{\quad} = 7 \times 5$

$\underline{\quad} = 4 \times 4$

$\underline{\quad} = 6 \times 3$



5. Draw a 4-by-9 array of Xs.

How many Xs in all? _____
Write a number model.



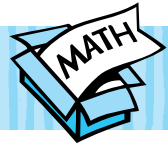
6. True or false? Circle one.

The line segment is
6.2 centimeters long.

true false



Math Boxes 5.13



1. Draw line segments AB and CD .

$A \bullet$

$\bullet B$

$C \bullet$

$\bullet D$



2. Complete.

A triangle has _____ sides and _____ angles.

A quadrangle has _____ sides and _____ angles.



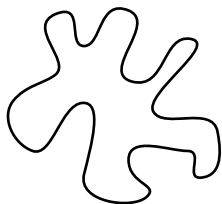
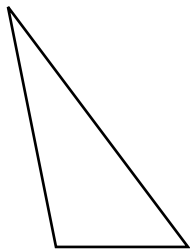
3. Draw a quadrangle.



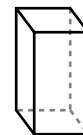
4. Draw a polygon.



5. Circle the shape that has line symmetry.

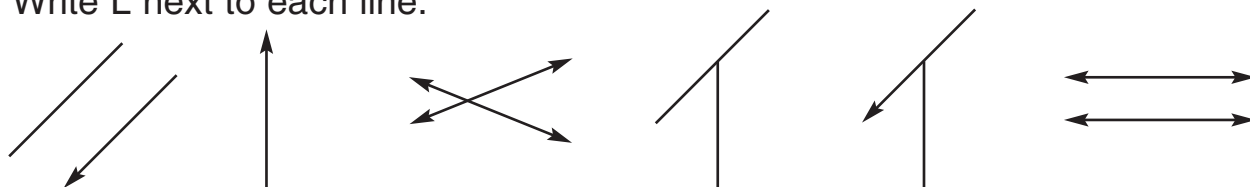


6. Circle the pictures that show 3-dimensional shapes.



Line Segments, Rays, and Lines

1. Write S next to each line segment. Write R next to each ray. Write L next to each line.



Points D , T , Q , and M are marked. Use a straightedge to draw the following.

2. Draw \overline{QT} . Draw \overrightarrow{DT} . Draw \overleftrightarrow{MQ} .

D .

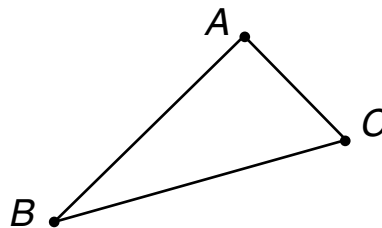
T .

M .

Q .

Draw a line segment between each pair of points. How many line segments did you draw?

Example



3 points

3 line segments

- 3.

P .

A .

L .

U .

4 points

_____ line segments

- 4.

R .

O .

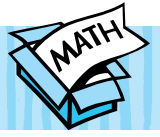
E .

S .

I .

5 points

_____ line segments



Math Boxes 6.1

1. Use the “about 3 times” circle rule to complete the table below:

For any circle, the circumference is about 3 times the diameter.

Unit

centimeters

diameter	circumference
	12
	18
	27



2. In the number 2.673

the 6 means 6 tenths

the 3 means _____

the 7 means _____

the 2 means _____



3. Fill in the unit box. Then divide.

$$30 \div 6 = \underline{\quad}$$

$$12 \div 4 = \underline{\quad}$$

$$20 \div 5 = \underline{\quad}$$

$$\underline{\quad} = 14 \div 7$$

$$\underline{\quad} = 9 \div 3$$

Unit



4. Write 4 division names for 6.

6



5. Write $<$, $>$, or $=$.

$$0.65 \underline{\quad} 0.56$$

$$0.07 \underline{\quad} 0.7$$

$$0.098 \underline{\quad} 0.102$$

$$73.4 \underline{\quad} 75.2$$



6. Solve.

$$15 - 9 = \underline{\quad}$$

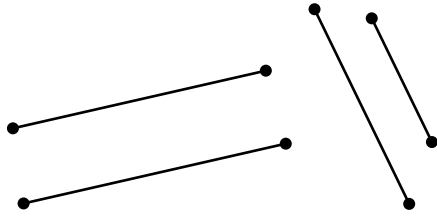
$$25 - 9 = \underline{\quad}$$

$$55 - 9 = \underline{\quad}$$

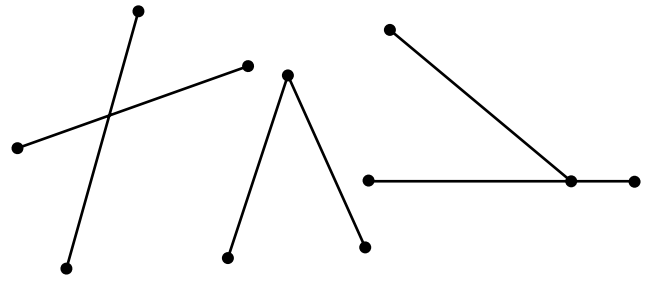
$$85 - 9 = \underline{\quad}$$

$$105 - 9 = \underline{\quad}$$

Geometry Hunt



parallel line segments



intersecting line segments

Part 1

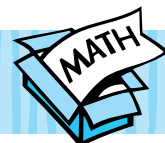
Look for things in the classroom or hallway that are parallel.
Look for things that intersect. List these things below or draw a few of each of them on another sheet of paper.

Parallel

Intersecting

Part 2

Look for things in the classroom or hallway that have one or more right angles.
List these things below or draw a few of them on another sheet of paper.



Math Boxes 6.2

1. Draw a ray, \overrightarrow{AB} . Draw a line segment, \overline{CD} . Draw a line, \overleftrightarrow{EF} .



2. Complete.

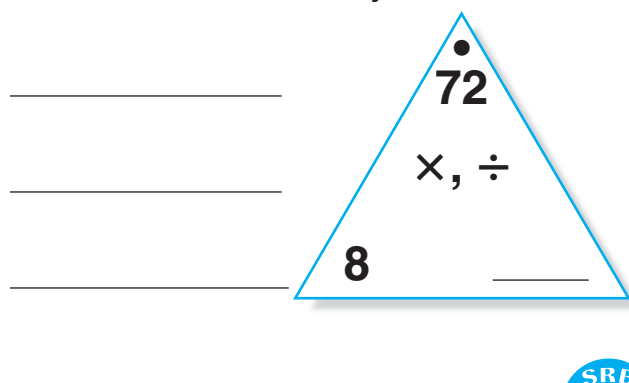
Unit

Total		
Part	Part	Part
217	197	300

Number model:

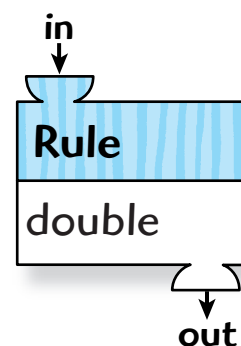


3. Complete the Fact Triangle. Write the fact family.

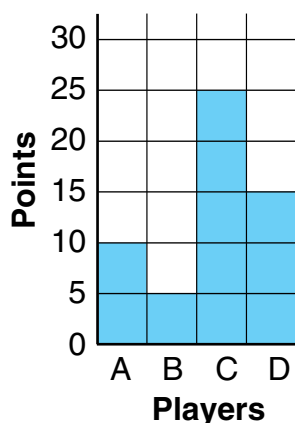


4. Complete.

in	out
16	
	240
225	
133	
	1,000



5. What is the difference in points between Players B and C?



_____ points
 What are the total points scored for all players?
 _____ points



6. Write equivalent lengths.

$\frac{1}{3}$ yd = _____ ft

18 in. = _____ yd

50 mm = _____ cm

0.6 m = _____ cm



Turns

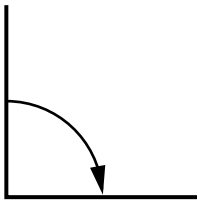
Use your connected straws to show each turn.

Draw a picture of what you did.

Draw a curved arrow to show the direction of the turn.

Example

right $\frac{1}{4}$ turn
(clockwise)



1.

right $\frac{1}{2}$ turn
(clockwise)

2.

left $\frac{1}{4}$ turn
(counterclockwise)

3.

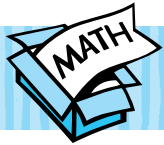
left $\frac{3}{4}$ turn
(counterclockwise)

4.

right $\frac{3}{4}$ turn
(clockwise)

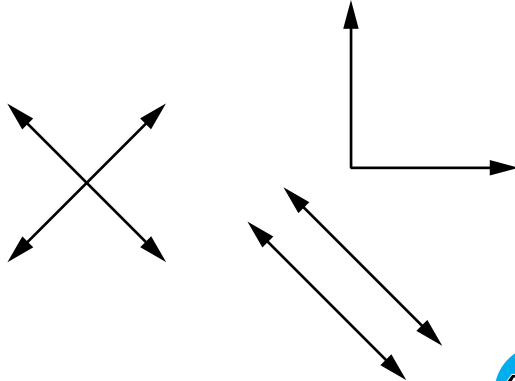
5.

left $\frac{1}{2}$ turn
(counterclockwise)



Math Boxes 6.3

1. Circle the pair of lines that are parallel.



2. Annette had \$16.75 in her purse. She spent \$8.66 at the store. How much money does she have left?



3. Write $<$, $>$, or $=$.

4×7 _____ 5×6

7×5 _____ 6×3

4×6 _____ 5×5

5×7 _____ 4×9



4. Solve.

$4,695 + 1,013 =$ _____

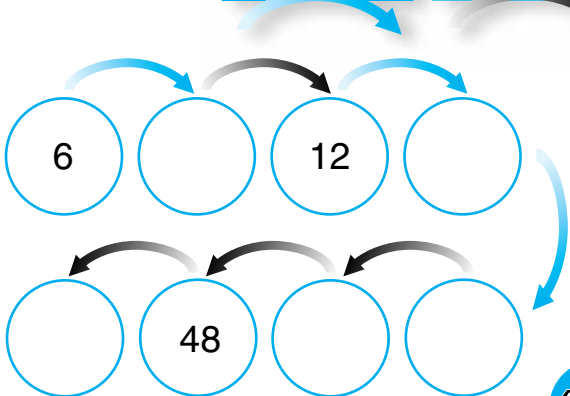
$5,692 - 3,688 =$ _____

_____ $= 10,000 + 695$

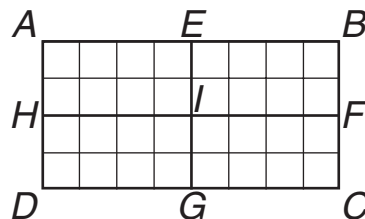


5. Complete.

$\times 4$ $\div 2$



6. Rectangle $ABCD$ is a(n) _____ by _____ rectangle. The area of rectangle $ABCD$: _____ \times _____ $=$ _____ square units.

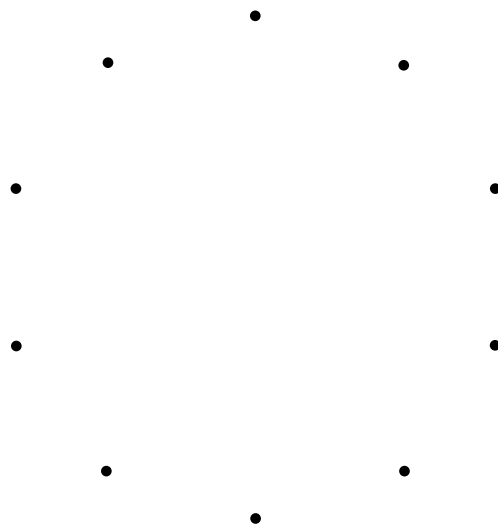


Triangle Explorations

Part 1

Follow these steps:

1. Mark three points on the circle.
2. Label them A , B , and C .
3. Use a straightedge to connect each pair of points with a line segment.
4. What figure have you drawn?



Part 2

Write all six 3-letter names that are possible for your triangle.
The first letter of each name is given below.

 A A B B C C

Part 3

Work with a group.

Make triangles with straws and twist-ties. Make at least one of each of the following kinds of triangles:

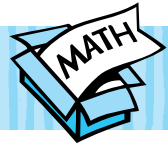
- all 3 sides the same length
- only 2 sides the same length
- no sides the same length
- 1 right angle
- 1 angle larger than a right angle
- all 3 angles smaller than a right angle

Part 4

Measure each side of the triangle you drew in Part 1 to the nearest $\frac{1}{4}$ inch.

side AB _____ in. side BC _____ in. side CA _____ in.

Math Boxes 6.4



1. Draw a ray, \overrightarrow{AT} . Draw a line segment, \overline{BY} . Draw a line, \overleftrightarrow{ME} .

•
A•
B•
M•
T•
Y•
E

2. In the number 34.972

the 9 means 0.9

the 7 means _____

the 3 means _____

the 4 means _____

the 2 means _____



3. The turn of the angle is



- less than a $\frac{1}{2}$ turn.
 less than a $\frac{1}{4}$ turn.
 greater than a $\frac{1}{2}$ turn.
 a full turn.



4. Double these numbers:

6 → _____

8 → _____

12 → _____

- Triple these numbers:

4 → _____

6 → _____

11 → _____

5. Write the time in hours and minutes.

half-past 6 _____:_____

quarter-past 9 _____:_____

quarter to 12 _____:_____

10 minutes to 10 _____:_____

6. What temperature is it? _____



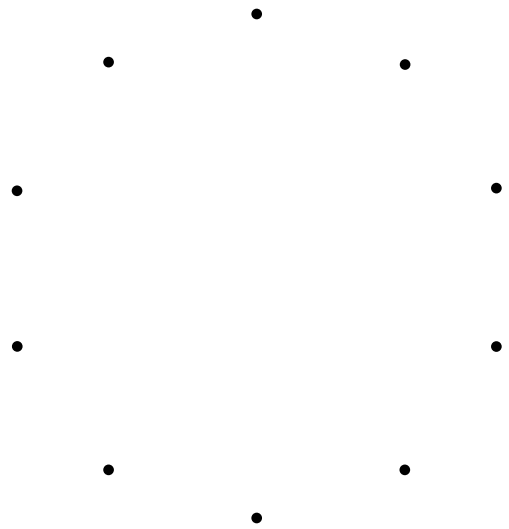
How many degrees difference is there between 90°F and the above temperature?



Quadrangle Explorations

Part 1 Follow these steps:

1. Mark four points on the circle.
2. Label the points A , B , C , and D .
3. Use a straightedge to connect pairs of points to form a quadrangle.



Part 2 Write all eight 4-letter names that are possible for your quadrangle. The first letter of each name is given below.

 A A B B
 C C D D

Part 3 Work with a group.

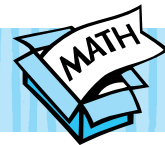
Make quadrangles with straws and twist-ties. Make at least one of each of the following kinds of quadrangles:

- all 4 sides equal in length
- 2 pairs of equal-length sides, but opposite sides not equal length
- 2 pairs of equal-length opposite sides
- only 2 parallel opposite sides, each a different length
- only 1 pair of equal-length opposite sides

Part 4 Measure each side of the quadrangle you drew in Part 1 to the nearest $\frac{1}{4}$ inch.

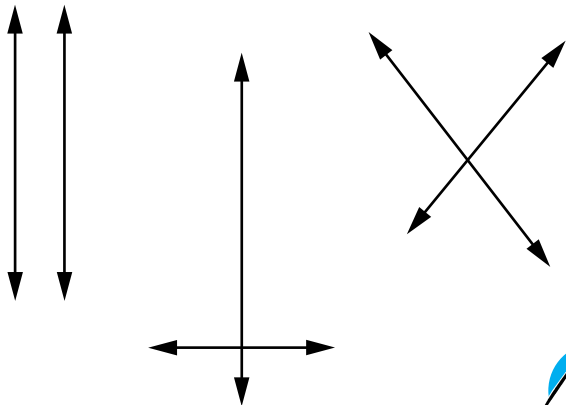
side AB _____ in. side BC _____ in. side CD _____ in. side DA _____ in.

Estimate: The perimeter of my quadrangle is about _____ inches.

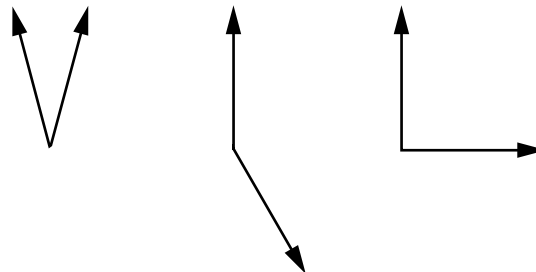


Math Boxes 6.5

1. Circle the lines that intersect.



2. Circle the right angle.



3. Write $<$, $>$, or $=$.

10×0 _____ 429×0

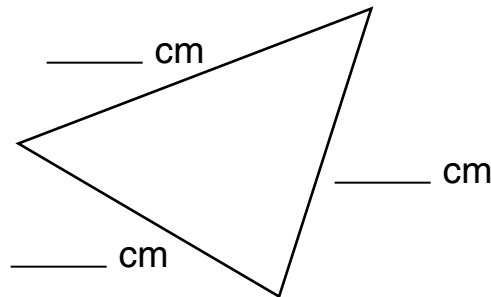
7×6 _____ 6×6

5×4 _____ 4×5

1×18 _____ 4×4



4. Measure each side of the triangle to the nearest centimeter.



Perimeter = _____ cm

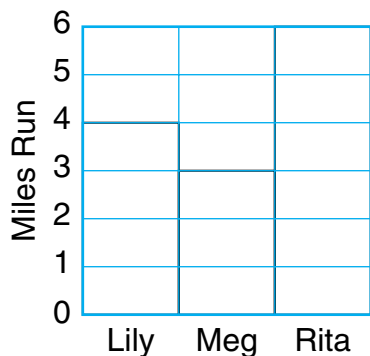


5. Complete the bar graph.

Lily ran
4 miles.

Meg ran
3 miles.

Rita ran
6 miles.



Median miles run: _____



6. Which is more?

1.36 or 1.6 _____

0.4 or 0.372 _____

0.69 or 0.6 _____

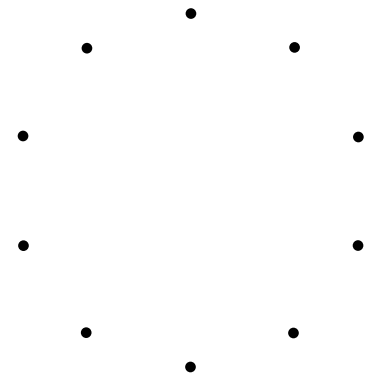
0.7 or 0.09 _____



Polygon Explorations

Part 1 Follow these steps:

1. Mark 5 points on the circle.
2. Label the points *A*, *B*, *C*, *D*, and *E*.
3. Use a straightedge to connect pairs of points to form a polygon.



4. What kind of polygon is it? _____
5. Write 4 or more possible names for your polygon.

Part 2 Work with a group.

Make polygons with straws and twist-ties. Your teacher will tell you how many sides your polygons should have.

Make at least one of each of the following kinds of polygons:

- all sides equal in length, and all angles equal in size (the amount of turn between sides)
- all sides equal in length, but not all angles equal in size
- *any* polygon having the assigned number of sides

Polygon Explorations (cont.)

Part 3 A **regular polygon** is a polygon in which all the sides are equal and all the angles are equal.

Below, trace the smaller of each kind of *regular* polygon from your Pattern-Block Template.

Below, trace all the polygons from your Pattern-Block Template that are *not* regular polygons.

Part 4 Measure each side of the polygon you drew in Part 1 to the nearest $\frac{1}{2}$ centimeter.

side *AB* _____ cm

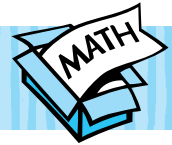
side *BC* _____ cm

side *CD* _____ cm

side *DE* _____ cm

side *EA* _____ cm

Estimate: The perimeter of my polygon is about _____ cm.

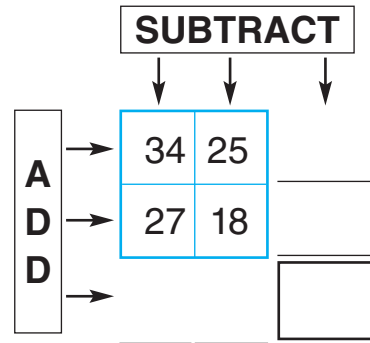


Math Boxes 6.6

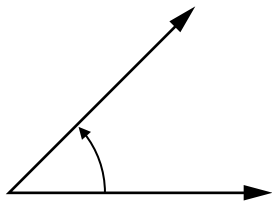
1. Draw a ray, \overrightarrow{SO} . Draw a line segment, \overline{LA} . Draw a line, \overleftrightarrow{TI} .



2. Fill in the missing numbers. Add going across and subtract going down.



3. The turn of the angle is



- greater than a $\frac{1}{4}$ turn.
- less than a $\frac{1}{4}$ turn.
- greater than a $\frac{1}{2}$ turn.
- a full turn.



4. 9 boxes of muffins. 6 muffins per box. How many muffins in all?

_____ muffins

Write a number model:

_____ × _____ = _____

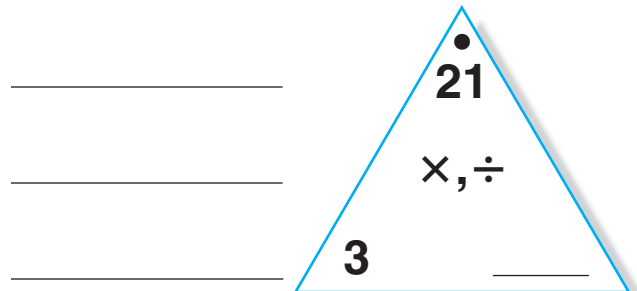


5. Draw a shape with 4 sides that are all equal in length.

This shape is a _____.



6. Complete the Fact Triangle. Write the fact family.



Drawing Angles

Draw each angle as directed by your teacher.
Record the direction of each turn with a curved arrow.

Part 1

A •

B •

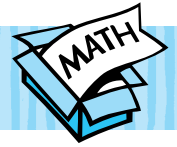
C •

Part 2

R •

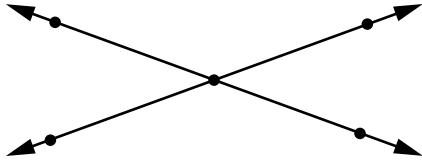
S •

T •



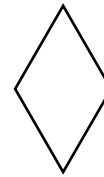
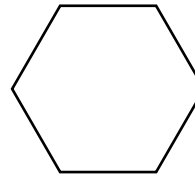
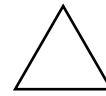
Math Boxes 6.7

1. Label all the points of these intersecting lines. Name the 2 lines.

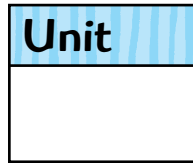




2. Circle the regular polygons.



3. Fill in the unit box. Then divide.



$$25 \div 5 = \underline{\quad}$$

$$18 \div 3 = \underline{\quad}$$

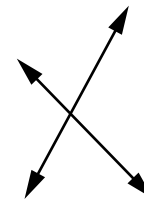
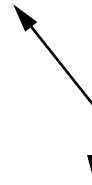
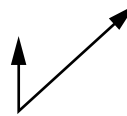
$$\underline{\quad} = 30 \div 5$$

$$28 \div 7 = \underline{\quad}$$

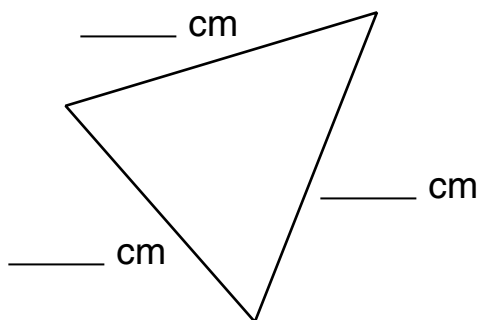
$$\underline{\quad} = 24 \div 4$$



4. Circle the right angle.



5. Measure each side of the triangle to the nearest centimeter.



Perimeter = _____ cm



6. In the number 4.908

the 4 means 4 ones

the 0 means _____

the 9 means _____

the 8 means _____



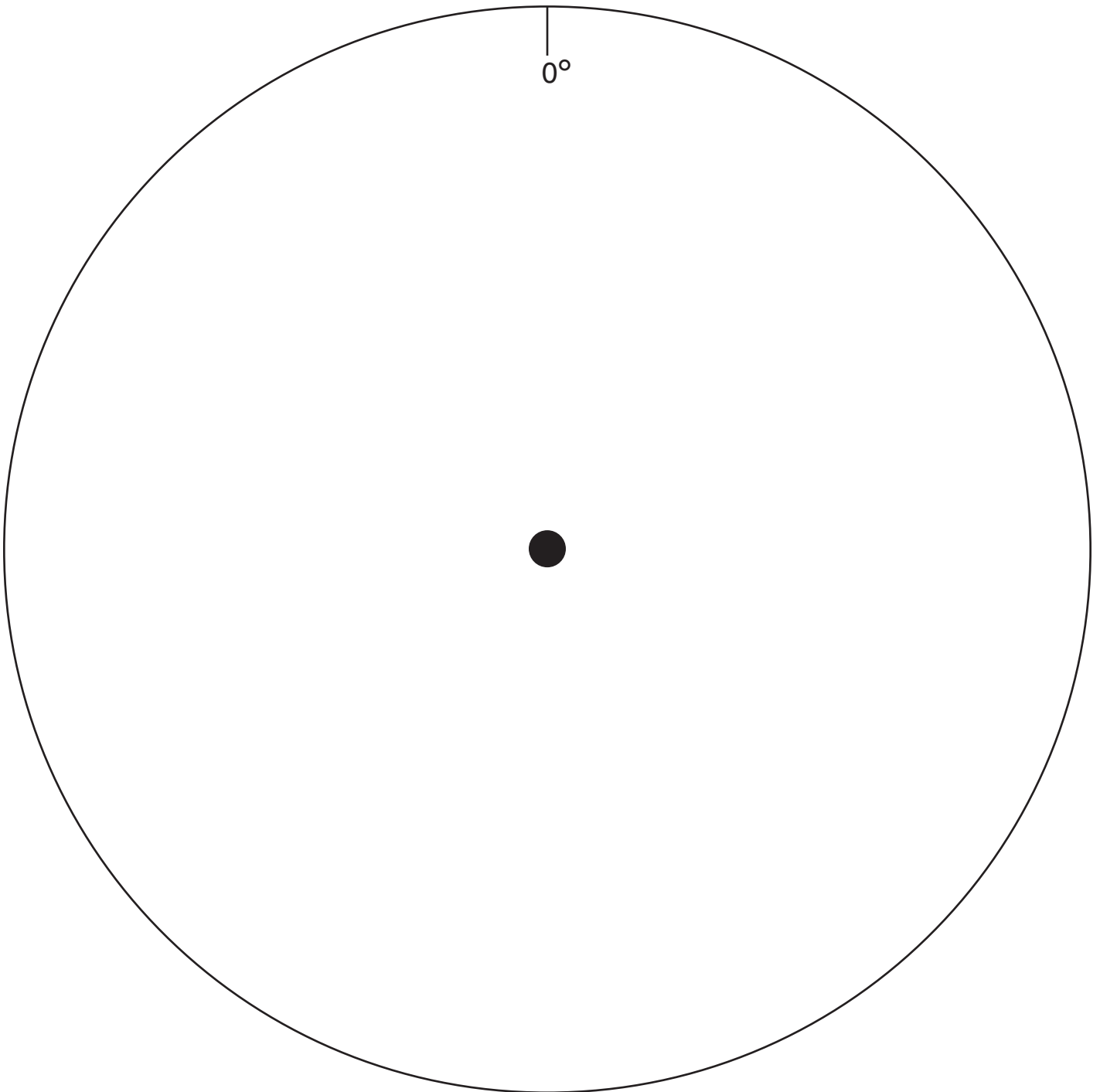
Marking Angle Measures

Connect 2 straws with a twist-tie. Bend the twist-tie at the connection.

Place the straws on the circle.

- Place the bend on the center of the circle.
- Place both straws pointing to 0° .

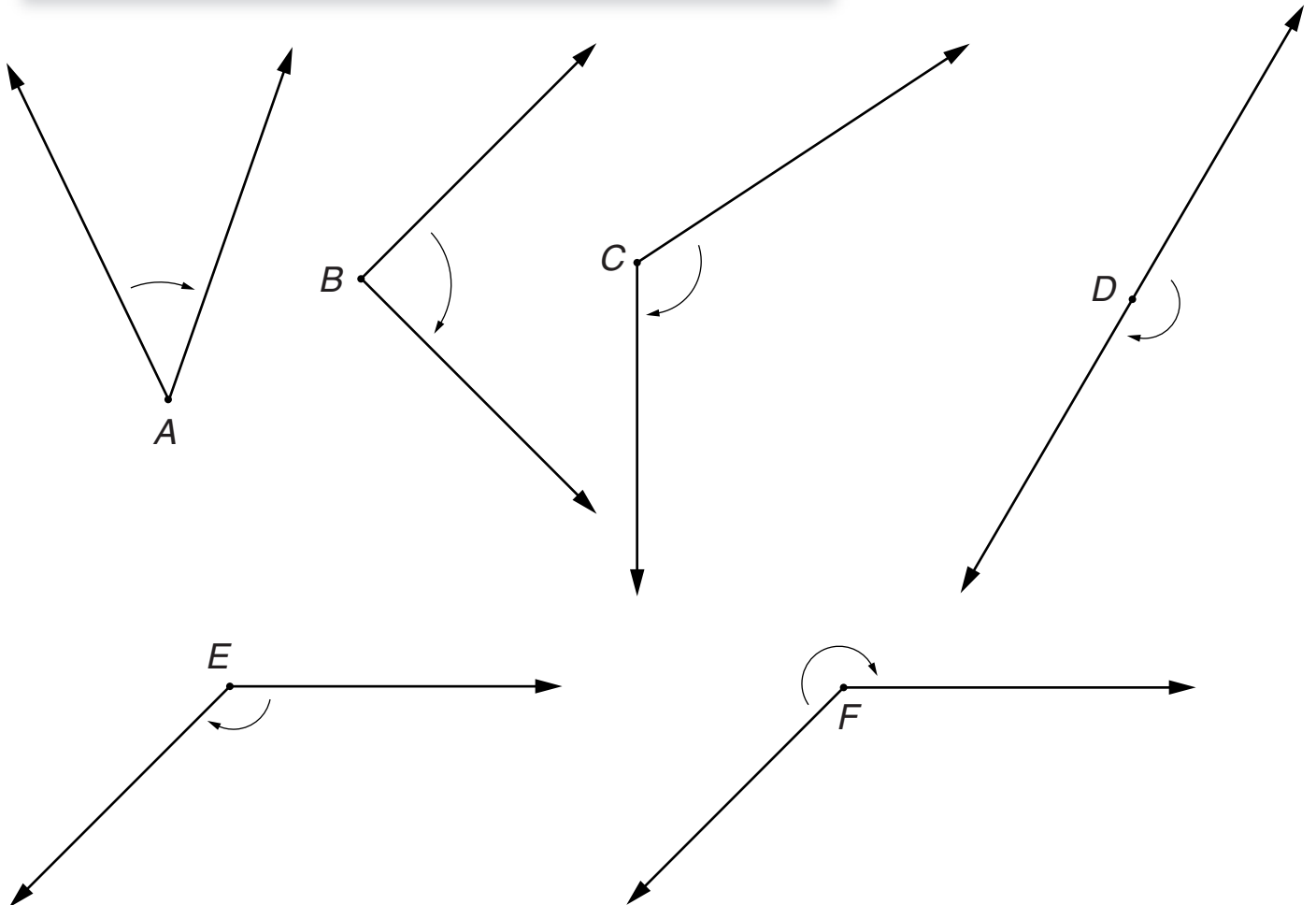
Keep one straw pointing to 0° . Move the other straw to form angles.



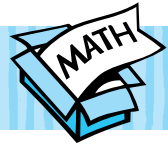
Measuring Angles

Use your angle measurer to measure the angles on this page.
Record your measurements in the table.

Angle	Measurement
<i>A</i>	about _____ ^o
<i>B</i>	about _____ ^o
<i>C</i>	between _____ ^o and _____ ^o
<i>D</i>	about _____ ^o
<i>E</i>	about _____ ^o
<i>F</i>	about _____ ^o



Math Boxes 6.8



1. Draw a ray, \overrightarrow{DO} . Draw a line segment, \overline{RE} . Draw a line, \overleftrightarrow{MI} .



2. Complete the equal-sharing story.

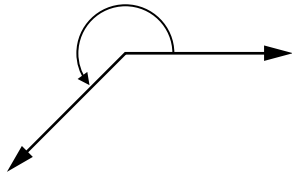
14 _____ are shared equally by _____ girls.

How many _____ does each _____ get? _____

How many _____ are left over? _____



3. The turn of the angle is



- greater than a $\frac{3}{4}$ turn.
 less than a $\frac{1}{4}$ turn.
 greater than a $\frac{1}{2}$ turn.
 a full turn.



4. Double these numbers:

15 → _____

80 → _____

200 → _____

- Triple these numbers:

10 → _____

25 → _____

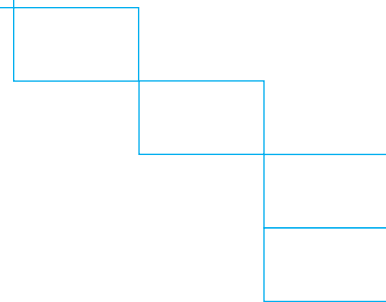
300 → _____

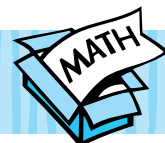
5. Draw a quadrangle with exactly one right angle.



6. Complete the number-grid puzzle.

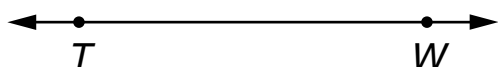
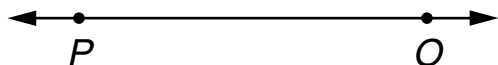
2,014





Math Boxes 6.9

1. Draw a line segment, \overline{DI} , parallel to the line, \overleftrightarrow{PO} . Draw a ray, \overrightarrow{LA} , that intersects the line, \overleftrightarrow{TW} .



2. Describe a regular polygon.



3. Fill in the unit box. Then multiply.

Unit

$4 \times 5 = \underline{\hspace{2cm}}$

$7 \times 3 = \underline{\hspace{2cm}}$

$\underline{\hspace{2cm}} = 4 \times 4$

$\underline{\hspace{2cm}} = 5 \times 3$

$\underline{\hspace{2cm}} = 7 \times 5$



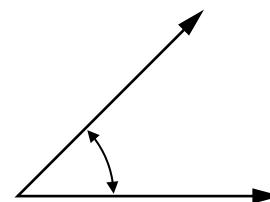
4. The degree measure of the angle is

more than 90° .

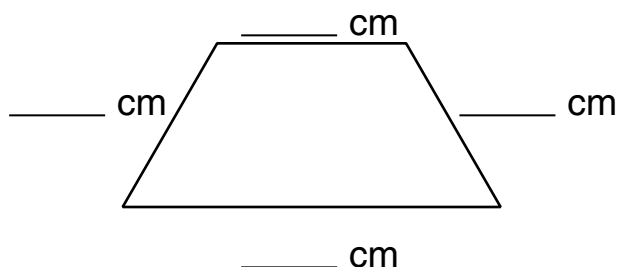
less than 90° .

more than 180° .

120° .



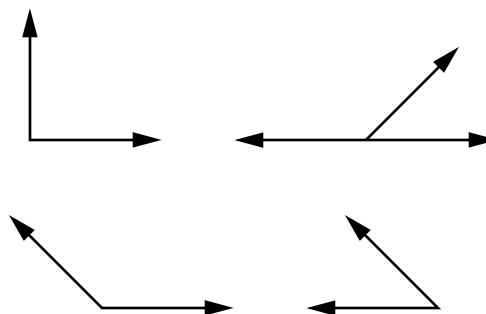
5. Measure each side of the quadrangle to the nearest half-centimeter.

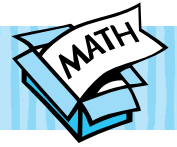


Another name for this quadrangle is a _____.



6. Circle the right angle.





Math Boxes 6.10

1. These letters are *Symmetts*:

H, T, M, A

These letters are not *Symmetts*:

F, J, R, S

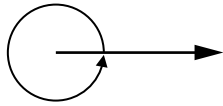
Write other letters that are *Symmetts*:



2. Write the number that has
7 in the thousandths place
5 in the ones place
1 in the tenths place
3 in the hundredths place



3. The turn of the angle is

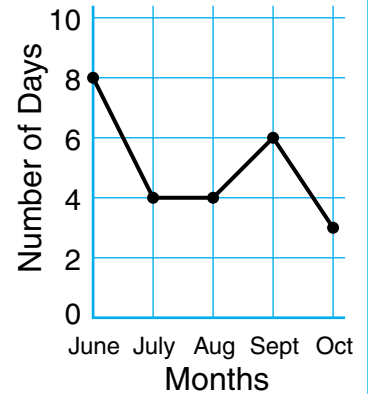


- a $\frac{1}{4}$ turn.
- less than a $\frac{1}{4}$ turn.
- less than a $\frac{1}{2}$ turn.
- a full turn.



4. Read the graph.

Days of Rain



Which month had the most days of rain?

What is the median number of days of rain? _____



5. Draw a quadrangle with exactly one pair of parallel sides.

This shape is called a

_____ .



6. Draw a 4-by-8 array of Xs.

How many Xs in all? _____

Write a number model.



Base-10 Block Decimal Designs

- Materials**
- base-10 blocks (cubes, longs, and flats)
 - 10-by-10 grids (*Math Journal 1*, p. 151)
 - crayons or colored pencils

Think of the *flat* as a unit, or ONE. Remind yourself of the answers to the following questions:

- How many cubes would you need to cover the whole flat?
- How much of the flat is covered by 1 cube? By 1 long?

Follow these steps:

Step 1 Make a design by putting some cubes on a flat.

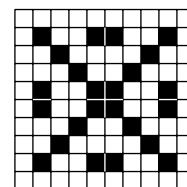
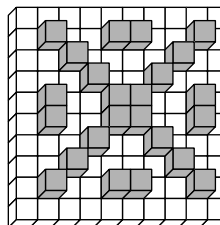
Step 2 Copy your design in color onto one of the grids on journal page 151.

Step 3 How much of the flat is covered by the cubes in your design? To help you find out, exchange as many cubes as you can for longs.

Step 4 Figure out which decimal tells how much of the flat is covered by cubes. Write the decimal under the grid that has your design on it.

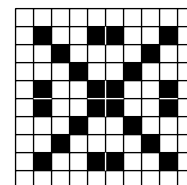
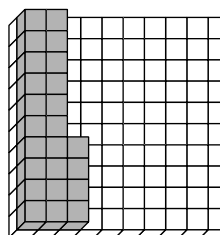
Example

Steps 1 and 2: Make a design on a flat with cubes. Copy the design onto a grid.



Step 3: Exchange cubes for longs. Figure out how much of the flat is covered.

Step 4: Write the decimal under the grid.



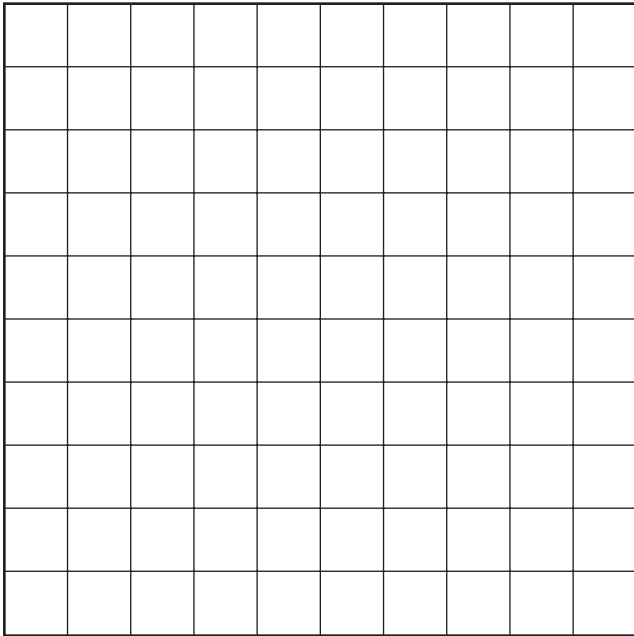
Make other designs with cubes on flats, and draw them on the grids. Write a decimal for each design.

Decimal: 0.24

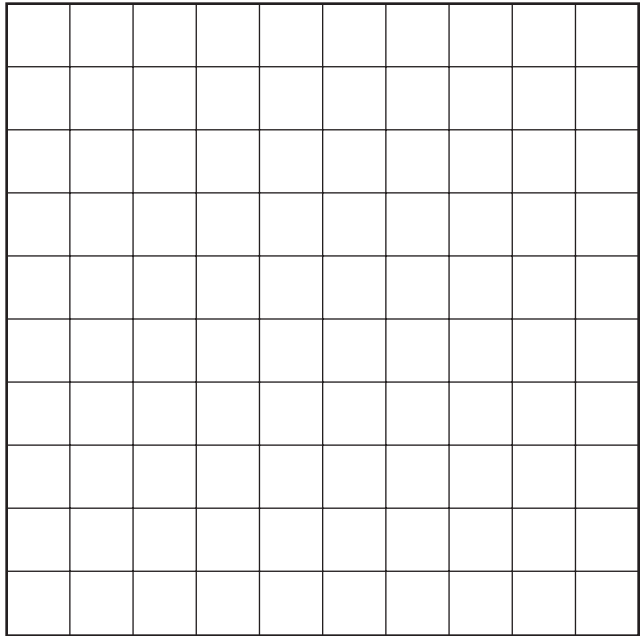
Date

Time

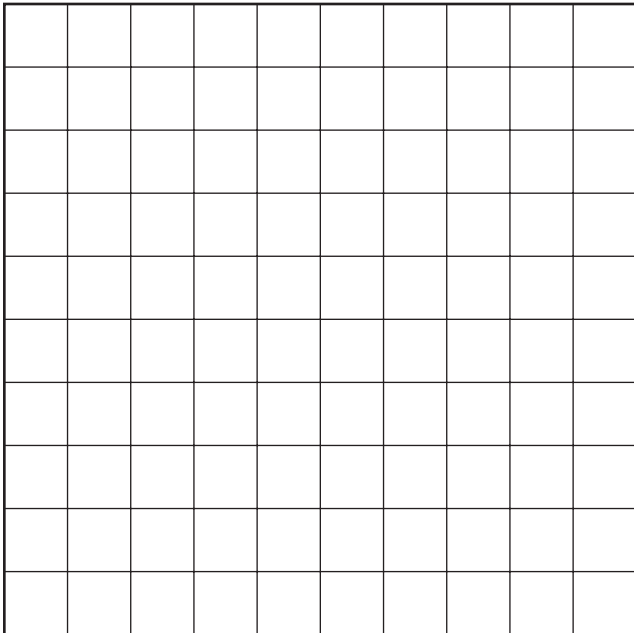
10 × 10 Grids



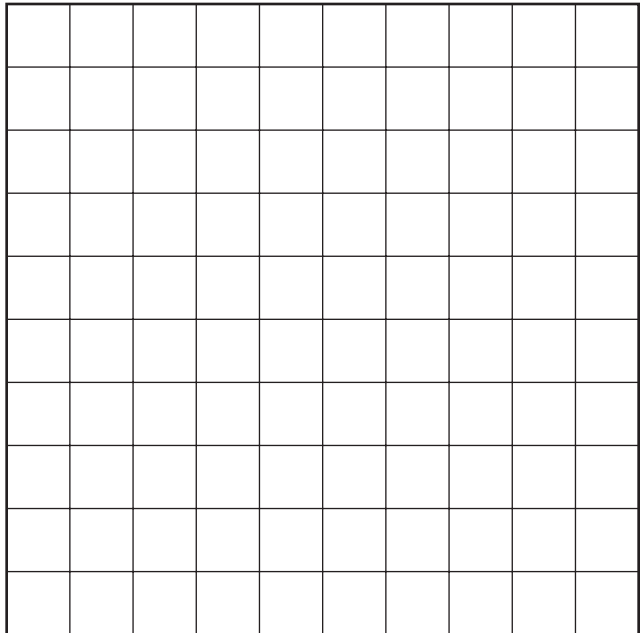
Decimal: _____



Decimal: _____



Decimal: _____

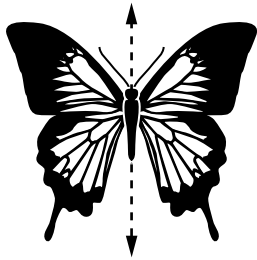


Decimal: _____

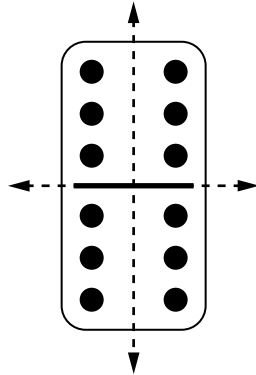
Symmetry

If a shape can be folded in half so that the two halves match exactly, the shape is **symmetric**. We also say that the shape has **symmetry**.

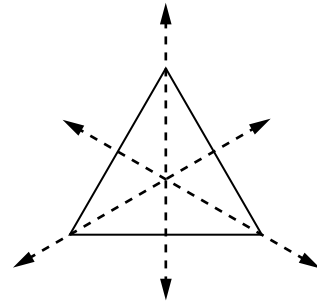
The fold line is called the **line of symmetry**. Some symmetric shapes have just one line of symmetry. Others have more.



1 line of symmetry



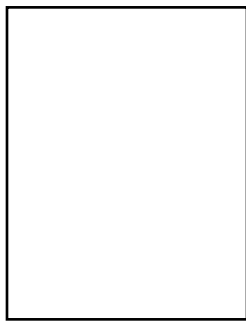
2 lines of symmetry



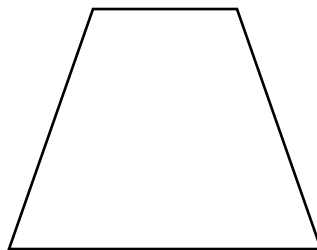
3 lines of symmetry

1. Which of the following shapes is **not** symmetric? _____

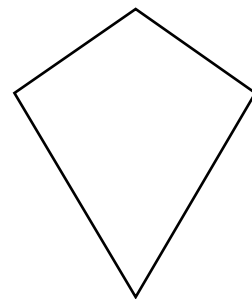
a.



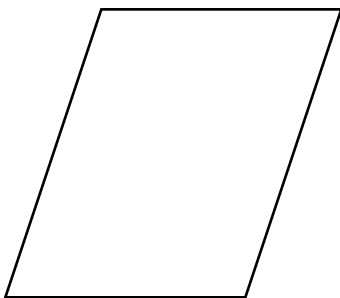
b.



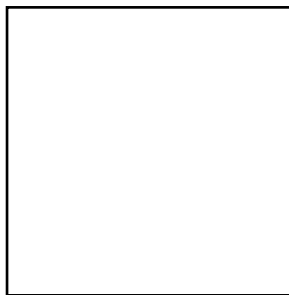
c.



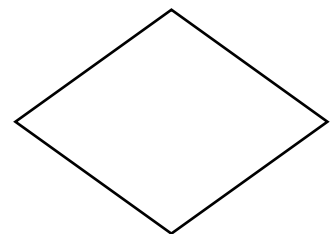
d.



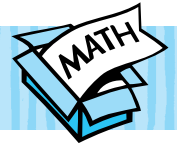
e.



f.



2. Draw all the lines of symmetry on the shapes that are symmetric.



Math Boxes 6.11

1. If a map scale shows that $\frac{1}{2}$ inch represents 50 miles, then
- 1 inch represents _____ miles
- 2 inches represents _____ miles
- 4 inches represents _____ miles
- _____ inches represents 500 miles



2. Figure out this riddle:

I have four sides. My opposite sides are equal in length. One set of my sides is longer than the other set of my sides. What shape am I?



3. Fill in the unit box. Then divide.

Unit

$12 \div 3 = \underline{\quad}$

$\underline{\quad} = 25 \div 5$

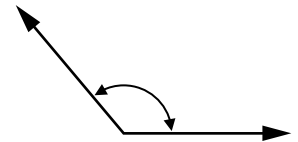
$\underline{\quad} = 28 \div 4$

$\underline{\quad} = 21 \div 7$

$24 \div 4 = \underline{\quad}$



4. The degree measure of the angle is



more than 90° .

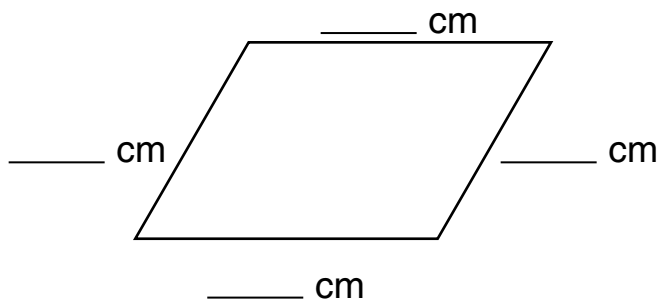
less than 90° .

more than 180° .

40° .



5. Measure the sides of the quadrangle to the nearest centimeter.

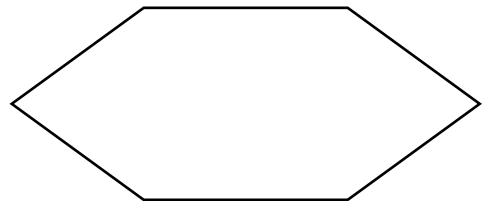


Another name for this quadrangle is

_____.



6. Draw the lines of symmetry.



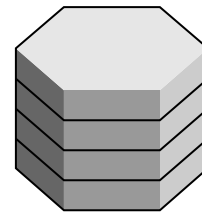
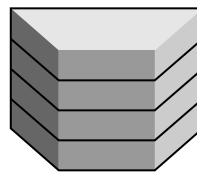
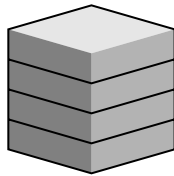
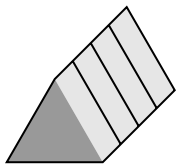
There are _____ lines of symmetry.



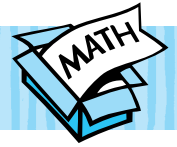
Pattern-Block Prisms

Work in a group.

1. Each person chooses a different pattern-block shape.
2. Each person then stacks 3 or 4 of the shapes together. See below.
3. Each person makes a prism by using small pieces of tape to hold the blocks together.



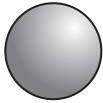
4. Below, carefully trace around each face of your prism. Then trace around each face of 2 or 3 more prisms on a separate sheet of paper. Share prisms with other people in your group. Ask someone in your group for help if you need it.



Math Boxes 6.12

1. Name each 3-dimensional shape.

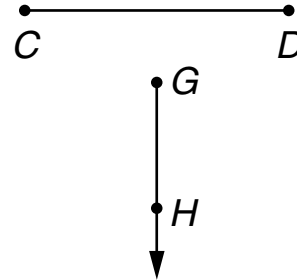




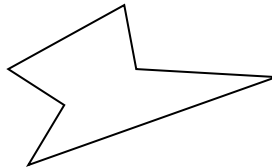




2. Draw a line, \overleftrightarrow{AB} , parallel to line segment \overline{CD} . Draw a ray, \overrightarrow{EF} , that intersects ray \overrightarrow{GH} .



3. Give two reasons that this hexagon is not a regular hexagon.





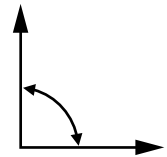
4. The degree measure of the angle is

more than 120° .

less than 45° .

more than 180° .

90° .



5. What is a quadrangle?



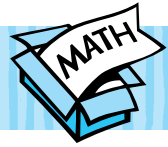
6. Trace a figure from your template and draw the lines of symmetry.

The figure is a _____.

It has _____ lines of symmetry.



Math Boxes 6.13



1. Solve.

$$2 \times 2 = \underline{\quad}$$

$$5 \times 5 = \underline{\quad}$$

$$\underline{\quad} = 3 \times 3$$

$$\underline{\quad} = 4 \times 4$$



2. Circle the even numbers.

23,406

129

700,001

44,444

57

135,790

The numbers that are not circled are called _____ numbers.



3. Solve.

$$5 \times 4 = \underline{\quad}$$

$$2 \times 7 = \underline{\quad}$$

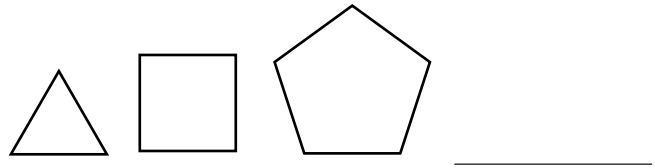
$$\underline{\quad} = 3 \times 10$$

$$\underline{\quad} = 7 \times 10$$

$$3 \times 5 = \underline{\quad}$$



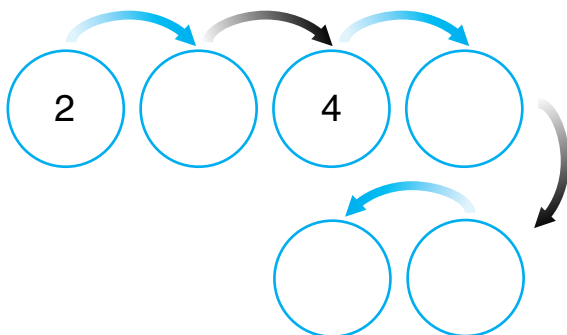
4. Continue the pattern.



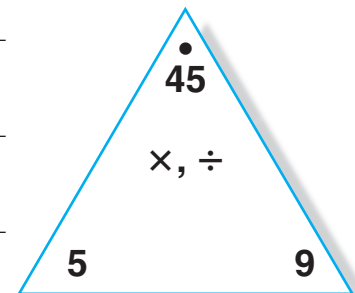
5. Complete.

$\times 10$

$\div 5$



6. Write the fact family.



Special Pages

The following pages will be used throughout the school year, first in this journal and then again in your *Math Journal 2* later during the year.

	Page
Sunrise and Sunset Record	158
Length of Day	159
National High/Low Temperature Project	160

On the Sunrise and Sunset Record on journal page 158, you will record the date, and then the time of sunrise and the time of sunset for that date. You will begin to do this at the end of Unit 1 and then once a week or so whenever your teacher tells you.

Then later in the year, you will use the data that you have recorded on journal page 158 to make a graph on journal page 159. Your teacher will teach you how to do this in Unit 5.

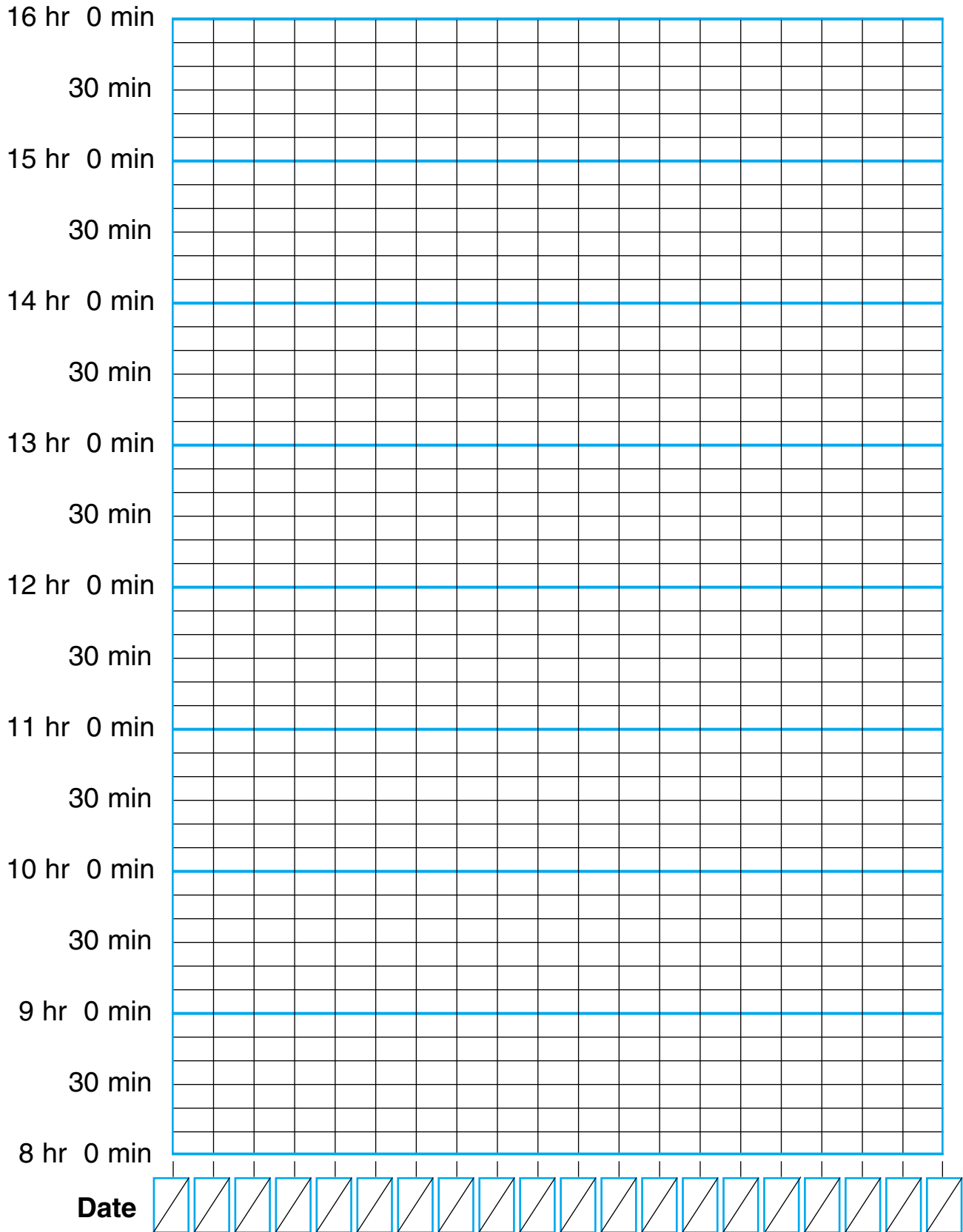
Finally, on the National High/Low Temperature Project on journal page 160, you will record the following data: the U.S. city with the highest temperature and the U.S. city with the lowest temperature for the same date. You will do this every week or whenever your teacher tells you.

When you begin your *Math Journal 2* later in the school year, you will continue to record the sunrise and sunset times, and the highest and the lowest temperatures on pages in that journal. Near the end of the school year, you will use all this information.

Date

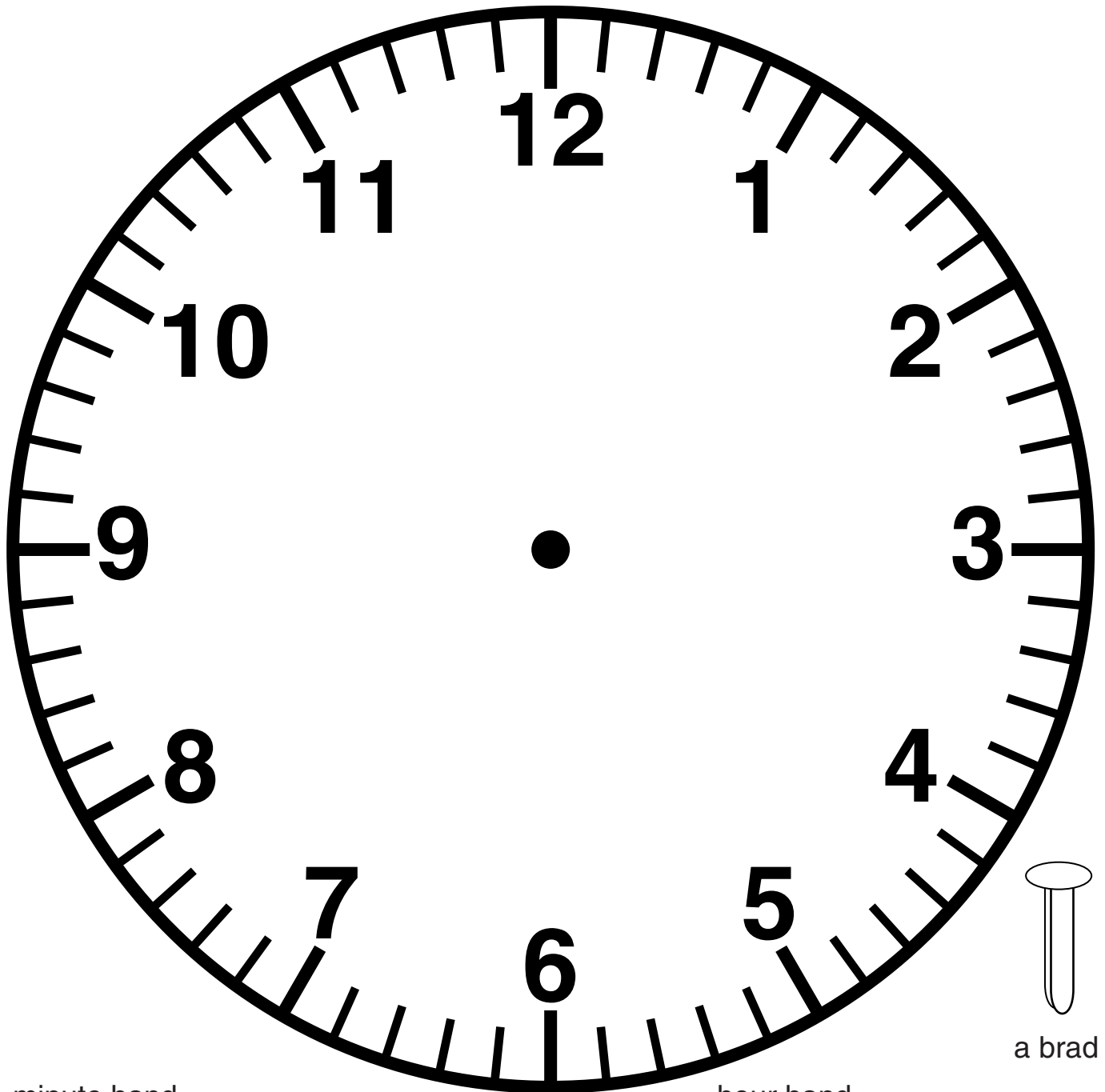
Time

Length of Day



Paper Clock

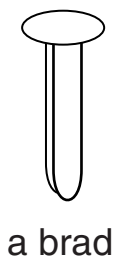
1. Cut out the clock face, the minute hand, and the hour hand.
2. Punch a hole through the center of the clock face and through the Xs on the hands.
3. Fasten the hands to the clock face with a brad.



minute hand

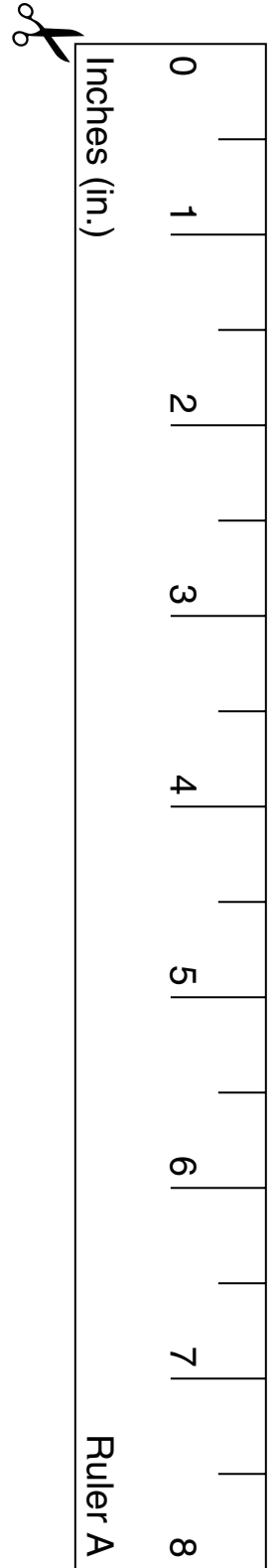
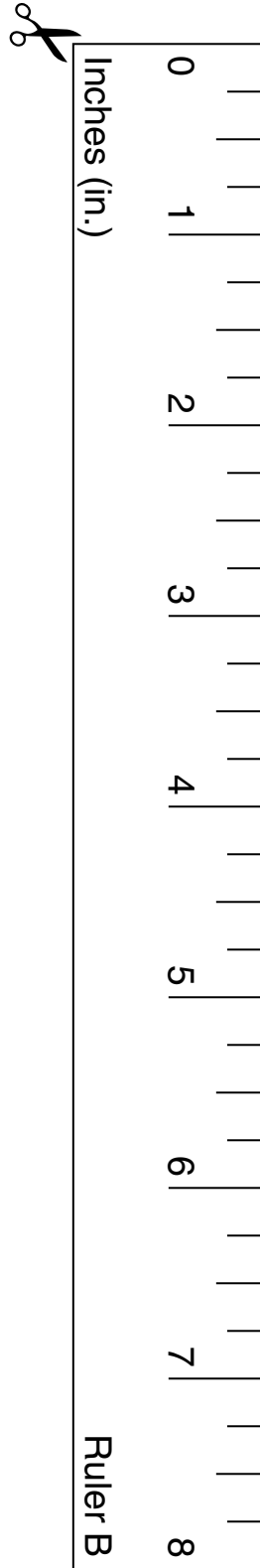
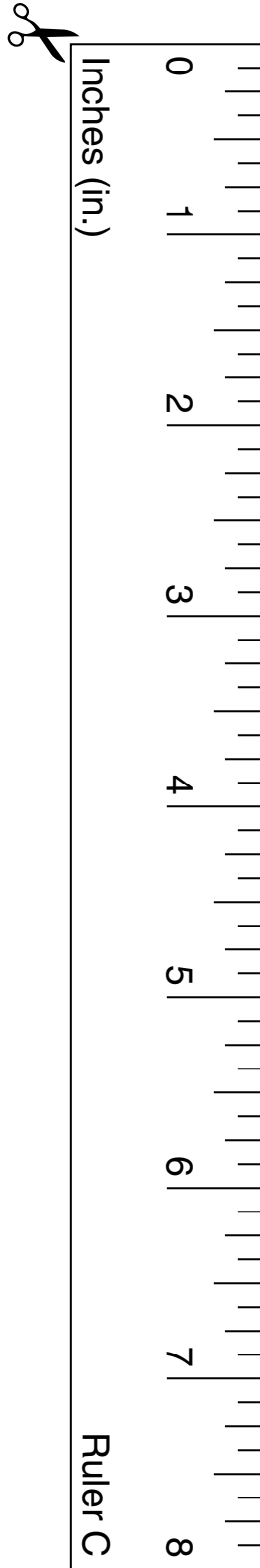
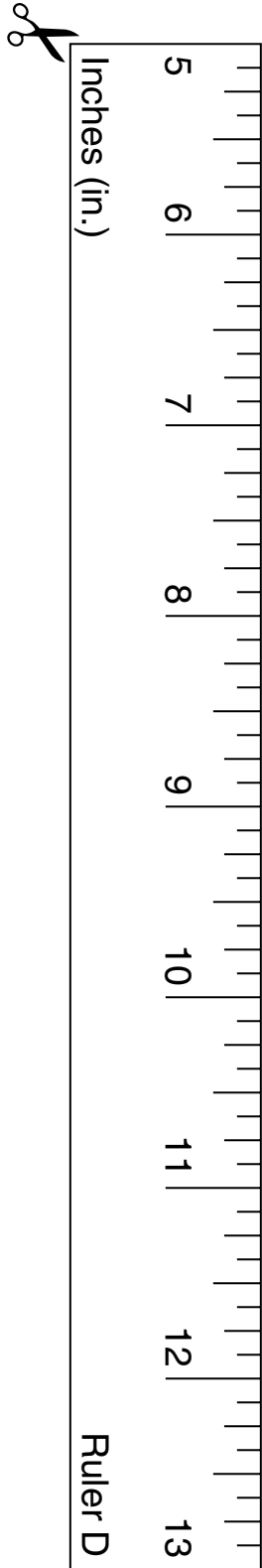
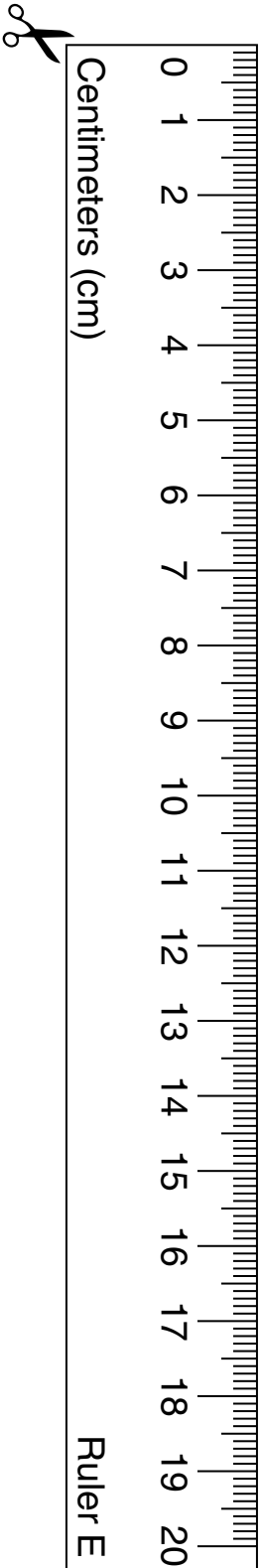


hour hand



Rulers

Cut out the rulers.



Multiplication/Division Fact Triangles 1

The diagram is a large dashed-line triangle with a scissors icon at the top-left vertex. It is divided into several smaller triangles by dashed lines. The numbers and symbols are arranged as follows:

- Top Row:** Left side: 2; Middle: 4 • 6 • 8; Right side: 4
- Second Row:** Left side: 2; Middle: ×, ÷; Right side: ×, ÷
- Third Row:** Left side: 2; Middle: 2; Right side: 2
- Fourth Row:** Left side: 4; Middle: 3; Right side: 3
- Fifth Row:** Left side: 2; Middle: ×, ÷; Right side: ×, ÷
- Sixth Row:** Left side: 5; Middle: 12 • 10 • 6; Right side: 3
- Seventh Row:** Left side: 4; Middle: 16 • 15 • 20; Right side: 5
- Bottom Row:** Left side: 4; Middle: ×, ÷; Right side: ×, ÷
- Bottom-most Row:** Left side: 4; Middle: 3; Right side: 5

Multiplication/Division Fact Triangles 2

2 7 14 • 12

5 6 30 • 12

3 7 21 • 18

4 6 24 • 28

x, ÷

x, ÷

x, ÷

x, ÷