LESSON 31

• Writing Directions

Power Up

facts

Power Up 31

jump start

Count up by 2s from 20 to 40.
Count up by 4s from 0 to 40.

Write a fact family using the numbers 4, 7, and 11.

Write "three dollars and fifty cents" using a dollar sign and digits.

mental math

a. **Calendar:** How many days are in 4 weeks?

b. **Number Sense:** 90 − 20

c. **Money:** $100 − $50

d. **Number Line:** What number does point *A* represent?

problem solving

Donna has four coins that are worth 32¢ altogether. What coins does she have?

New Concept

When we tell how to go from one place to another, we describe both the direction and the distance.

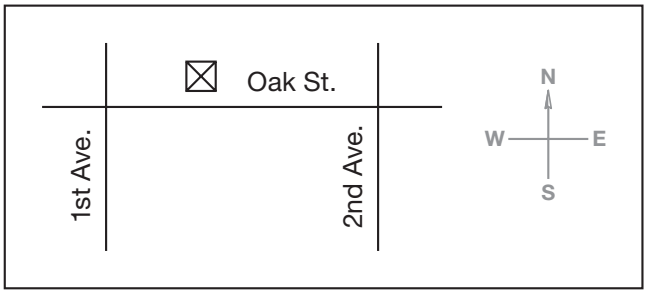
Maps are usually drawn so that the top of the map is north. The directions north, east, south, and west are often marked on the map's legend with the capital letters N, E, S, W.

Below is a map of the United States with a compass rose showing north, east, south, and west.

Connect If you face south, which direction will be to your right?

Example

The X on the map shows where Robert and his sister live. Robert says he lives on the left side of Oak Street. His sister says she lives on the right side of Oak Street. Who is correct? Is there a better way to describe where they live?



The words *left* and *right* can be confusing because they depend on the direction a person is facing. The map above shows that the house is on the left side of Oak Street when a person is traveling from 1st Avenue toward the house. However, the house is on the right side of the street if a person is coming from 2nd Avenue.

It would be less confusing to state that Robert and his sister live on the **north side of the street** because the directions of the compass do not depend on which way a person is facing. Left and right may be used if the direction of travel is clearly understood.

In the following activity you will practice giving directions. Describe the direction to travel using compass directions. Describe the distance to travel by stating the number of blocks.

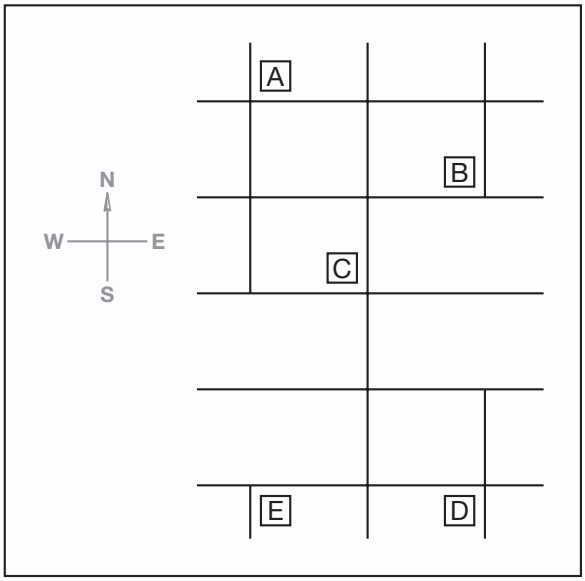
Activity

Giving Directions

There are five locations labeled A-E on the map below. With a partner, take turns giving oral directions from one location to another. While one person speaks the directions, the other person follows the directions.

Here is an example:

> Start at A. Travel east one block. Turn right and travel south two blocks. Where are you?



The directions lead to location **C.**

Lesson Practice

Using the map in this lesson, write directions for traveling from:

a. Location B to location E.

b. Location D to location B.

c. Choose two locations on the map. Name the locations and then write directions from one location to the other.

Written Practice

Distributed and Integrated

1. (18, 22) Freddy spent 75¢ playing a video game and 85¢ for a snack. Altogether, how much did Freddy spend? Write the answer using digits and a dollar sign.

2. (20, 28) Cindy owed Matt $45. She gave Matt a $100 bill. How much money should Matt give back to Cindy?

3. (30) Alvin had $92. He spent $76 at the grocery store. About how much money does Alvin have left?

4. (15) The price of the shirt was $16. Round the price to the nearest ten dollars.

5. (12) Pallu wrote a check to *Sharp Shirts* for $169. Write that amount using words.

6. (21, 29) **Connect** A penny is what fraction of a dollar? A penny is what fraction of a dime?

7. (30) Estimate the sum of 231 and 529.

Predict What is the tenth number in each sequence?

8. (2) 36, 33, 30, 27, 24, 21, 18 . . .

9. (2) 12, 24, 36, 48, 60, 72, 84 . . .

Add or subtract as shown:

10. (22) $3.49 + $2.83

11. (28) 200 − 150

12. (10) 8 + 9 + 4

13. (26) $4.65 − $3.75

14. (21, 24) 36¢ + 45¢ + 60¢

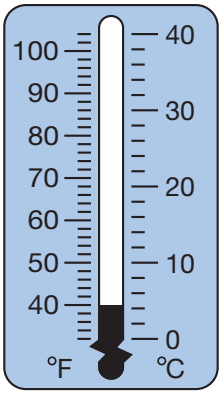
15. (19) $450 − $30

16. (9, 24) Find the missing addend: $25 + 50 + m = 100$

17. (11) Write 860 in expanded form.

18. *(21, 28)* **Model** Fred bought an eraser for 18¢ and paid for it with two dimes. What coins should he get back in change? Show the subtraction using money manipulatives.

19. *(4)* This thermometer shows the temperature inside a refrigerator. What is the temperature on the Fahrenheit and Celsius scales?



20. *(5)* Show how to write a quarter to four o'clock in the afternoon in digital form.

Early Finishers

Real-World Connection

Paulina and her friends are making posters for the school bake sale. Paulina can buy a pack of seven markers for $1.00. If she buys three packs of markers, can she give two markers to each of her eight friends? Explain. You may use manipulatives to find the answer.

LESSON 32

• Reading and Writing Numbers Through 999,999

Power Up

facts

Power Up 32

jump start

Count down by 5s from 60 to 0.
Count down by 10s from 100 to 0.

Write 296 in expanded form.

Write 132 using words.

mental math

a. **Number Sense:** 80 − 50

b. **Money:** $1.00 − $0.30

c. **Time:** It is morning. The class will eat lunch 2 hours after the time shown on this clock. What time will the class eat lunch?

d. **Number Sense:** 6 + 5 + 4

problem solving

This is a square pattern that contains 4 tiles. It has 2 rows, and each row has 2 tiles.

Jim has 9 tiles. If he makes 3 rows of tiles, how many tiles will be in each row?

New Concept

In Lesson 11 we learned about digits and place value to the hundreds place. In this lesson, we will learn about place value to the hundred-thousands place.

Visit www.SaxonMath.com/Int3Activities for an online activity.

Remember that the **place value** of a digit is decided by its position in the number. We can write the number 7,596 in a place value chart.

Hundred Thousands	Ten Thousands	Thousands	,	Hundreds	Tens	Ones
_____	_____	7	,	5	9	6

The expanded form of 7,596 is 7,000 + 500 + 90 + 6.

The 7 in the thousands place has a value of 7 thousands or 7,000. The 5 in the hundreds place has a value of 5 hundreds or 500. The 9 in the tens place has a value of 9 tens or 90. The 6 in the ones place has a value of 6 ones or 6.

To write a number in the thousands, we use a comma so that the number is easier to read. We start from the ones place and count to the left three digits. The comma should be between the hundreds place and the thousands place.

We read this number as "seven thousand, five hundred ninety-six."

Example 1

Write each of these numbers with a comma.

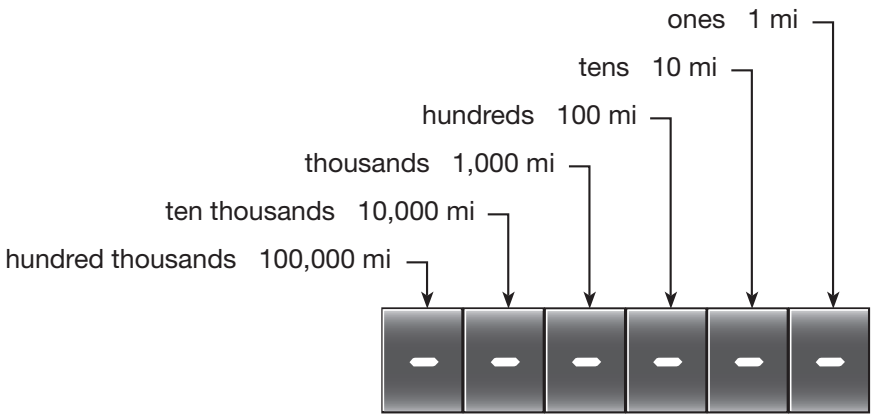
a. 1760 **b. 25000** **c. 125000**

Starting from the ones place, we count three digits to the left and write a comma.

a. 1,760 **b. 25,000** **c. 125,000**

The odometer on the dashboard of a car can help us understand place value. An odometer shows how far the car has been driven. The odometers of most cars in the United States measure the distance traveled in miles.

Most odometers can count through hundreds of thousands of miles.



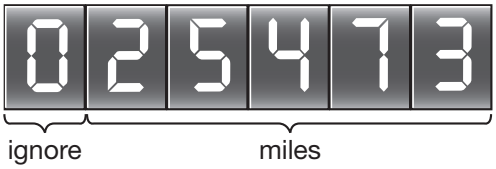
Example 2

The Johnsons bought a new car two years ago. The odometer shows this display.

a. How far has the car been driven?

b. Use words to name the number of miles shown.

To read an odometer, we ignore the zeros in front and begin reading with the first digit that is not a zero. We name a number in the thousands by first reading the digits to the left of the comma. We say "thousand" at the comma. Then we name the digits to the right of the comma.



We can also show this number on a place value chart.

Hundred Thousands	Ten Thousands	Thousands	,	Hundreds	Tens	Ones
0	2	5	,	4	7	3

a. The car has been driven **25,473 miles.**

b. twenty-five thousand, four hundred seventy-three miles

Example 3

a. A mile is five thousand, two hundred eighty feet. Write that number with digits.

b. Write 5,280 in expanded form.

a. We write five, then the thousands comma, then two hundred eighty.

5,280

b. The 5 in 5,280 has a value of 5,000:

5,000 + 200 + 80

Generalize There are 10 ones in a ten and 10 tens in a hundred. How many hundreds are in one thousand? How many ten thousands are in a hundred thousand?

Example 4

Compare:

35,498 ◯ 33, 882

We can use place value to compare the numbers. We begin with the digits in the ten thousands place. Both have 3s, so we move to the thousands place. Five thousands is greater than three thousands, so we replace the circle with a greater than symbol:

35, 498 > 33, 882

Reading and Writing Big Numbers

Work with a partner to read and write numbers greater than 999 and less than 999,999. Take turns writing numbers for your partner to read.

Lesson Practice

Write these numbers with a comma. Then name the numbers.

a. 24800

b. 186000

Use digits to write these numbers.

c. six thousand, four hundred

d. sixty-four thousand

Write each of these odometer displays with digits. Then use words to name the miles shown.

e.

f.

g. Compare: 68, 329 ◯ 69, 235

Written Practice

Distributed and Integrated

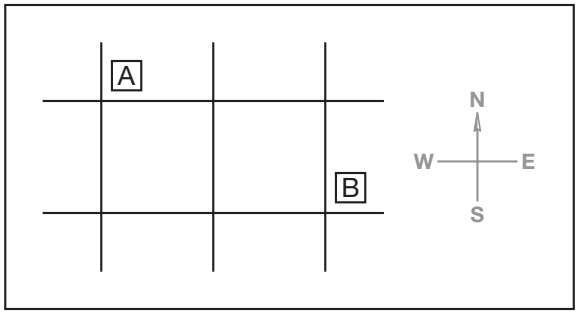
1. (16, 18) **Analyze** Ann earned three hundred forty dollars. Tina earned two hundred ninety-five dollars. How much did they earn altogether? Who earned more?

2. (28) Juan bought a tent for $65. He paid for the tent with a $100 bill. How much money should Juan get back?

3. (15) Hugo bought a windbreaker for $39. Round the price to the nearest ten dollars.

4. (21) Write $9.12 using words.

5. (31) Look at this map and write directions for traveling from location A to location B.



6. (29) **Analyze** How many cents is $\frac{2}{4}$ of a dollar?

7. (32) Write the number 35694 using a comma. Then name the number using words.

8. (2) Write the next four numbers in this sequence:
7, 14, 21, _____, _____, _____, _____ …

9. (32) Compare: 354, 382 ◯ 352, 847

Add or subtract, as shown:

10. (28) $300 − $150

11. (22) $6.47 + $0.98

12. (26) $7.25 − $5.35

13. (10) 8 + 8 + 8 + 8

14. (19) 375 − 250

15. (21, 24) 38¢ + 53¢ + 72¢

Find the missing addend:

16. (9, 24) 12 + 12 + m = 36

17. (9, 16) ☐ + 100 = 900

18. (3) While eating lunch, Jaime glanced at the clock. What time was it?

19. (14, 25) **Analyze** The price of the toy car was 53¢. Sam gave the clerk one quarter, one dime, one nickel and three pennies. How much more does Sam need to pay?

20. (31) **Represent** Draw a picture of this story. Then answer the question with a complete sentence:

Pedro started his walk. He walked one block north, then one block east, then one block south. In which direction and how far should Pedro walk to return to where he started?

Early Finishers
Real-World Connection

Tyrone and his 3 friends won 30 fun tickets playing video games at the Game Palace. Since they won them as a team, they decided to share the tickets equally. How many tickets should each person get? How many extra tickets will they have? You may use manipulatives to find the answer.

LESSON 33

• More About Number Lines

Power Up

facts

Power Up 33

jump start

Count up by 10s from 5 to 95.

Count up by 7s from 0 to 42.

The piano recital will begin at half past 5 in the afternoon. Draw hands on your clock to show this time. Write the time in digital form.

A normal low temperature in July in Washington, D.C., is 19°C. Mark your thermometer to show this temperature.

mental math

a. **Number Sense:** 2 + 7 + 8

b. **Number Sense:** 19 + 10

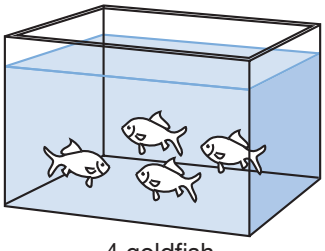
c. **Estimation:** Is $345 closer to $300 or to $400?

d. **Patterns:** What number is missing from the pattern shown below?

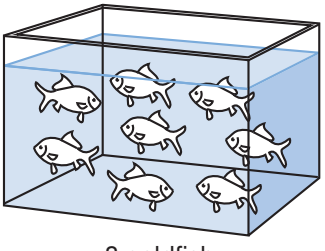
25	____	35	40	45

problem solving

There are 4 goldfish in the first tank. There are 8 goldfish in the second tank. Chad wants an equal number of goldfish in each tank. How can he move some goldfish to do this?



4 goldfish



8 goldfish

New Concept

We remember from Lesson 4 that a **number line** shows numbers on a line in counting order. Each point on a number line stands for a number. The number line below showws tick marks that represent numbers. Point *A* on this number line stands for 25 and Point *B* stands for 45.

Generalize What is the rule for the pattern shown by the first 4 numbers on the number line above?

Example

Which point on this number line stands for 126? Which point stands for 138?

The numbered tick marks on a number line help us find what other points stand for. On this number line we see that there are 5 tick marks from 120 to 130. The pattern for this number line is "count up by twos." We can use this pattern to see that **point *C* stands for 126** and **point *H* stands for 138.**

Activity

Making a Timeline

A **timeline** is like a number line. Points on a timeline stand for dates. This timeline shows some important dates in the history of flight.

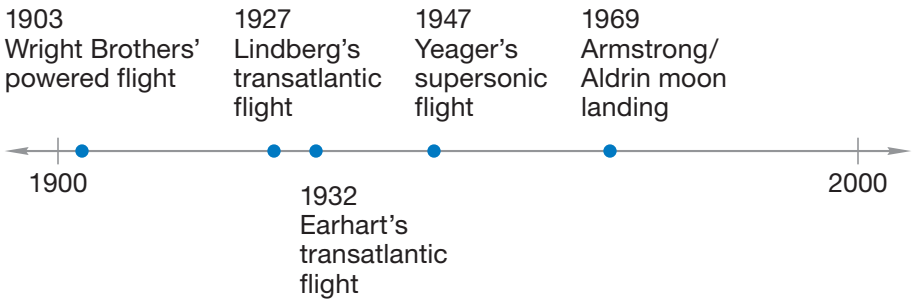
Flight Timeline

1903	1927	1947	1969
Wright Brothers' powered flight	Lindberg's transatlantic flight	Yeager's supersonic flight	Armstrong/ Aldrin moon landing

In 1932, Amelia Earhart became the first woman to fly solo across the Atlantic Ocean. We can use the dates on the timeline to figure out where to place this event.

1932 is between 1927 and 1947. Earhart's flight across the Atlantic happened between Lindberg's flight and Yeager's flight. We draw a point on the timeline between 1927 and 1947.

Flight Timeline



With a partner, create a timeline for the following inventions:

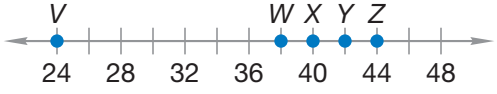
1876: Telephone 1975: Personal Computer

1927: Television 1844: Telegraph

1. Begin by sketching a segment that you will use for the timeline. Then order the years from least to greatest.
2. Mark the year 1800 near the left end of the segment and mark 2000 near the right end of the segment.
3. Draw a mark halfway between the marks for 1800 and 2000. What year would the middle mark represent?
4. Draw four dots on the timeline at the proper places for the dates shown above.
5. Near each dot write the year and the name of the invention.

Lesson Practice

Use this number line for **a–d.**



a. What number does *X* stand for?

b. Which point stands for 24?

c. What number does *W* stand for?

d. Which point stands for 44?

e. Some highways are marked with mileage markers to show the number of miles from the state line. Draw a number line to represent a 10-mile stretch of highway. Make equally spaced tick marks to stand for mileage markers. Label the tick mark on the left 130. Then label each tick mark to its right until you get to 140.

Written Practice

Distributed and Integrated

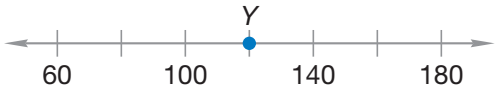
1. (20, 25) **Analyze** Rosemarie bought a glass of juice for 65¢. She gave the clerk three quarters. What coins should Rosemarie get back in change?

2. (20) James is reading a book that has 184 pages. He has read 52 pages. How many more pages does James have to read?

3. (15) Julie bought a pony for $685. Round $685 to the nearest hundred dollars.

4. (30) Estimate the difference of 923 and 688.

5. (33) What number does point *Y* represent on the number line?



6. (17, 21) **Analyze** List the names of these coins in order from least to greatest value.

dime, penny, quarter, nickel

7. (29) What fraction of a dollar is eight dimes?

What are the next four numbers in each sequence?

8. (2) 18, 24, 30, 36, _____, _____, _____, _____, …

9. (2) 375, 400, 425, _____, _____, _____, _____, …

Add or subtract, as shown:

10. (21, 24) 35¢ + 48¢ + 65¢

11. (28) $100 − $77

12. (22) $4.58 + $4.49

13. (19) 885 − 850

14. (25) 12 + 12 + 12

15. (16) $746 + $74

16. (9, 10) Find the missing addend: $6 + m + 8 = 15$

17. (11) Write 605 in expanded form.

18. (25) What is the value of these coins?

19. (32) The odometer display shows how many miles? Write your answer with digits and with words.

20. (31) **Represent** Draw a picture of this story. Then answer the question with a complete sentence.

Glenda walked five steps south. She turned and walked eight steps west. Then she turned and walked five steps north. In which direction and how far should Glenda walk to return to where she started?

LESSON 34

• Length: Inches, Feet, and Yards

Power Up

facts

Power Up 34

jump start

Count up by 2s from 0 to 30.
Count up by 4s from 0 to 40.

The zoo opened at a quarter of nine in the morning. Draw hands on your clock to show this time. Write the time in digital form.

The temperature inside the refrigerator was 3°C. Mark your thermometer to show this temperature.

mental math

a. **Number Sense:** 14 + 9

b. **Number Sense:** 60 − 30

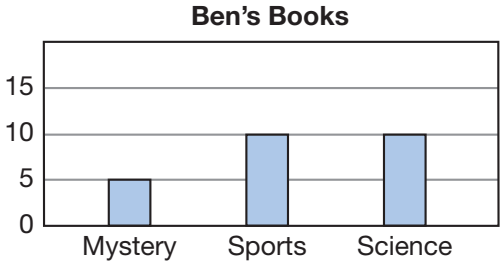
c. **Money:** Which has the greater value?

$0.20 or $2.00

d. **Money:** Find the value of these bills and coins:

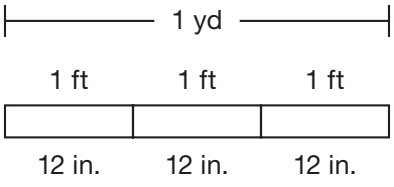
problem solving

This bar graph shows the different kinds of books Ben owns. If Ben bought 5 more mystery books to add to his collection, how many books would he have altogether?



New Concept

The odometer of a car measures distances in miles. To measure shorter distances we use other units. **Inches, feet,** and **yards** are smaller units for measuring length in the U.S. Customary System of measure. You might have a ruler in your desk that is 12 inches long. Twelve inches equals one foot. There might be a yardstick in your classroom. Three rulers laid end to end measure about a yard because 3 feet equals a yard. One yard also equals 36 inches.



Abbreviations	
inch	in.
foot	ft
yard	yd

It helps to have a mental image of these units so you can estimate lengths. In this table we list some items that measure about 1 inch or 1 foot or 1 yard.

Unit	Example
1 inch	the distance across a quarter
1 foot	the length of a man's shoe
1 yard	the length of a big step

Justify Would you measure the distance around the block in inches? Why?

Activity

Inches, Feet, Yards

Make a table like the one above using objects in the room. Use your ruler to find at least two items to represent each unit of measure. Work with a partner or in a small group. Each person should make his or her own table.

Example 1

This table shows the number of inches in 1, 2, and 3 feet. Copy the table. Continue the pattern to 4 feet and 5 feet to find how many inches tall a 5-foot step ladder would be.

Feet	**1**	**2**	**3**	**4**	**5**
Inches	**12**	**24**	**36**		

Each additional foot adds 12 inches.

Feet	1	2	3	4	5
Inches	12	24	36	**48**	**60**

A 5-foot step ladder is **60 inches** tall.

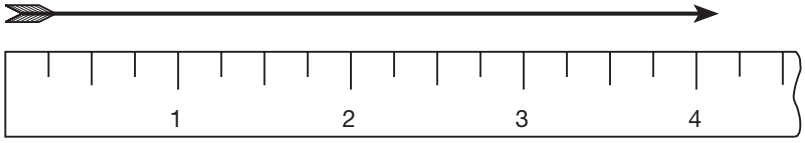
Example 2

Use a ruler to measure the length of the pencil below in inches.

We place our ruler so that the 0 inch mark is at one end of the pencil. Then we look at the number on the ruler that is even with the other end of the pencil. We see that the pencil is **3 inches** long.

Example 3

Use the ruler to measure the length of the arrow below to the nearest inch.



We see that the arrow is between 4 and 5 inches long. It is closer to 4 inches than 5 inches. Measured to the nearest inch, the arrow is 4 inches long.

Lesson Practice

a. Hold your ruler flat, and then balance it on the side of your forefinger. How many inches of the ruler are on each side of your finger?

b. Six rulers, each 12 inches long, are laid end to end. How many yards do they reach?

c. Use your ruler to find the distance from point *A* to point *B* to the nearest inch.

A ● ● *B*

d. Use a ruler to find the distance from point *C* to point *D* to the nearest inch.

C ● ● *D*

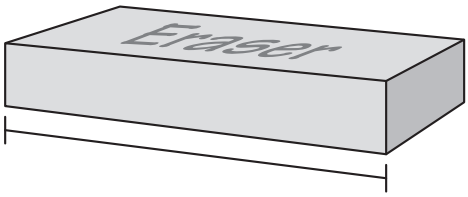
e. This table shows how many feet equal 1, 2, or 3 yards. The lines across a football field are five yards apart. Extend the table to find how many feet equal 5 yards.

Yards	1	2	3	4	5
Feet	3	6	9		

Written Practice

Distributed and Integrated

1. *(34)* Use a ruler to measure the length of the eraser below in inches.

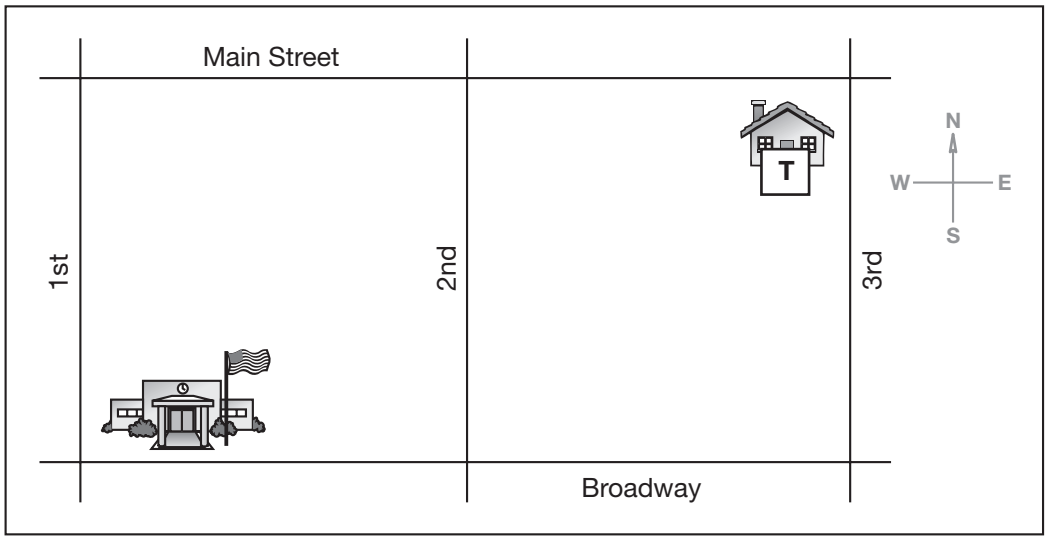


2. *(21, 22)* **Analyze** Gina paid seven dollars and fifty cents for a movie ticket and two dollars and fifty cents for snacks. Altogether, how much did Gina spend?

3. *(15)* The binoculars were on sale for $49. Round the price to the nearest ten dollars.

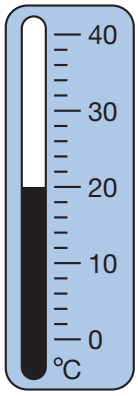
4. *(12)* Write 549 using words.

5. (31) This map shows Tracy's house and school. Describe how to go from Tracy's house to school.



6. (20, 21, 26) **Analyze** The price of a box of cereal is $3.97. Norman has a coupon for 50¢ off the regular price. If Norman uses the coupon, how much will the cereal cost?

7. (4) What temperature is shown on this thermometer?



8. (2) What are the next four numbers in this sequence?

12, 24, 36, ____, ____, ____, ____, …

9. (29) **Multiple Choice** Which set of coins is $\frac{3}{100}$ of a dollar?

A 3 quarters **B** 3 dimes

C 3 nickels **D** 3 pennies

Add or subtract, as shown:

10. (28) $200 − $44

11. (10) 7 + 7 + 7 + 7

12. (19) 463 − 200

13. (16) $567 + $32

14. (26, 28) $2.50 − $1.49

15. (21, 24) 47¢ + 38¢ + $1.00

Find the missing addend:

16. (9, 24) $10 + m + 14 = 36$

17. (9) $100 = 30 + \square$

18. A mile is 5,280 feet. Use words to write that number.
(32)

19. Before leaving for school, Ruben looked at the clock. What time was it?
(3)

20. **Formulate** A toll road charges 10¢ per mile. What is the charge to drive 8 miles on the toll road? Write a number sentence to answer the question.
(10)

Early Finishers
Real-World Connection

Jenny and Olivia wanted to find out how old they are in days. Jenny calculated that she is 3,657 days old while Olivia figured she is 4,387 days old. How many days older is Olivia than Jenny? How many years older is Olivia than Jenny? (Hint: There are 365 days in a year.)

LESSON 35

• Measuring to the Nearest Quarter Inch

Power Up

facts

Power Up 35

jump start

Count up by 3s from 0 to 30.
Count up by 9s from 0 to 90.

Write a fact family using the numbers 8, 2, and 10.

Write "five hundred forty" using digits.

mental math

a. **Number Sense:** 18 + 9

b. **Estimation:** Is $12 closer to $10 or $20?

c. **Money:** $1.00 − $0.10

d. **Number Line:** What number does point *B* stand for?

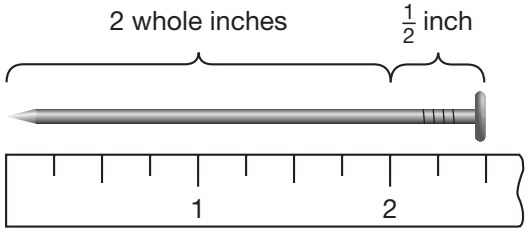
problem solving

Mai has four coins that are worth 22¢ altogether. What are the coins?

New Concept

In this lesson we will draw an inch ruler and divide it into half inches and quarter inches. Then we will use the ruler to measure.

In the last lesson we measured objects to the nearest inch. The length of most objects is between inch marks. We can name these measures with the number of whole inches plus the fraction of an inch.



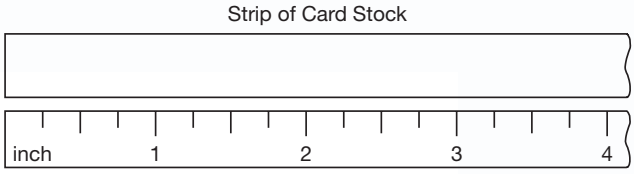
The nail measures 2 whole inches plus $\frac{1}{2}$ inch. We say the nail is $2\frac{1}{2}$ inches long.

Activity

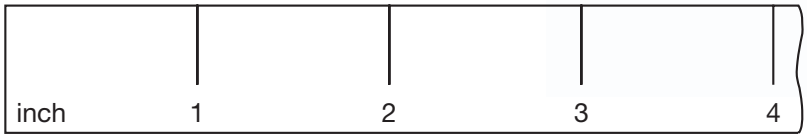
Inch Ruler

Materials: inch ruler, pencil, strip of card stock about 6 inches long

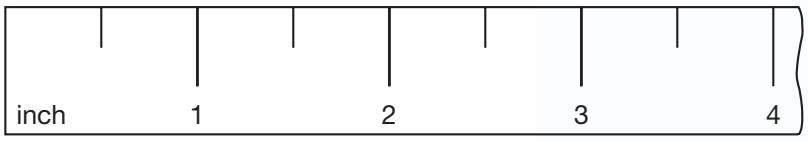
You will make your own ruler. You need a strip of card stock about 6 inches long, a pencil, and a ruler. Lay the strip of card stock sideways on your desk. Lay the ruler on top of it so that you can read the number of inches. Match the left end of the ruler to the left end of the strip. Then slide the ruler toward you a little bit so that you can mark on the strip.



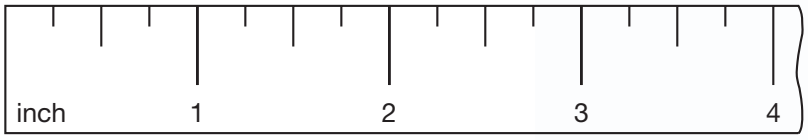
Step 1: At each inch mark on your ruler, make a mark on the strip of paper. The inch marks should all be the same size. Then number the marks as they are numbered on your ruler. When you are done, the strip of paper should look like this.



Step 2: Now set the ruler aside and use just your pencil and the strip of paper. Find the halfway point between the inch marks and make the half-inch marks. The half-inch marks should be shorter than the inch marks.



Step 3: We will make one more set of marks on the ruler. Find the halfway point between each pair of marks and make the quarter-inch marks. These are the shortest marks.



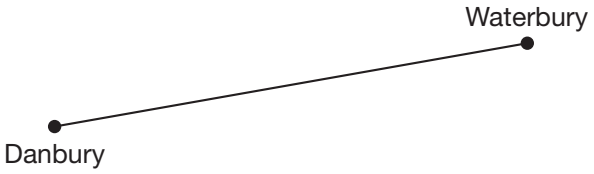
Save this ruler as a bookmark. We will use it for measuring. First we will use it for counting.

- Point to the marks on the ruler as you count by half-inches. Counting by half-inches is like counting by half-dollars.
- Point to the marks on the ruler as you count by quarter-inches (fourths of an inch). Counting by quarter-inches is like counting by quarters with money.

Analyze Justin measured the lengths of 3 pieces of ribbon. The red ribbon was $2\frac{1}{2}$ inches long, the blue ribbon was $\frac{1}{2}$ inch long, and the white ribbon was $3\frac{3}{4}$ inches long. Write the colors of ribbon in order from shortest length to longest length.

Example

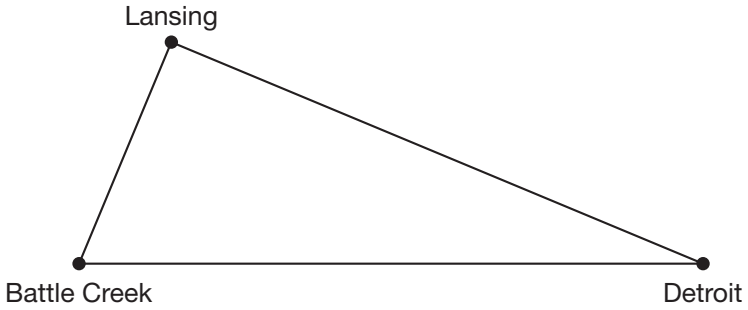
Use your ruler to find the distance between Danbury and Waterbury on the map in inches.



We place the 0 inch mark of the ruler at the dot for Danbury. The dot for Waterbury is at the mark halfway between 2 inches and 3 inches. So the distance between the towns on the map is **$2\frac{1}{2}$ in.**

Lesson Practice

Use the ruler you made and this map to find the distance in inches between the cities on this map.



a. From Battle Creek to Detroit

b. From Battle Creek to Lansing

c. From Detroit to Lansing

d. Use your ruler to draw a segment that is $1\frac{1}{2}$ inches long.

Written Practice

Distributed and Integrated

1. *(20, 26)* All stuffed animals were on sale for $5.00 off the regular price. The regular price of a stuffed lion was $9.99. What was the sale price of the lion?

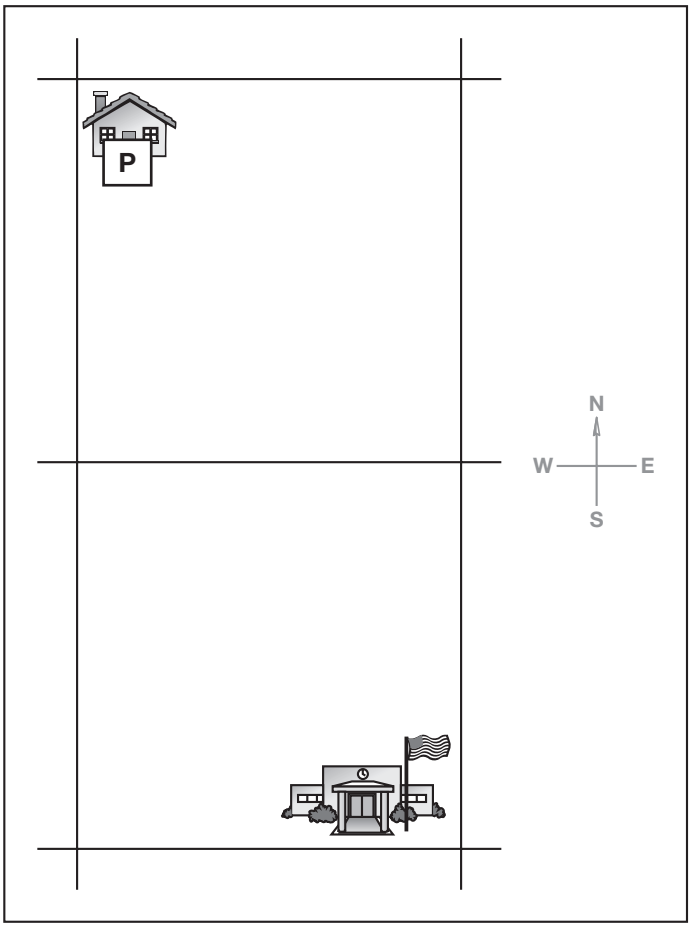
2. *(18, 22)* Alison bought a stuffed animal on sale for $4.99. Sales tax was $1.50. What was the total price, including sales tax?

3. *(17)* **Interpret** The table below shows the height in inches of four students. Write the names of the students in order from shortest to tallest.

Student	Height
Lindsay	72
Iva	59
Chad	66
Nash	76

4. *(15)* Round $26 to the nearest ten dollars.

5. (31) This map shows that Paula lives 3 blocks from school. Describe a way to go to Paula's house from school.



6. (34) **a.** One foot is equal to how many inches?

b. Two feet is equal to how many inches?

7. (35) **Represent** Use a ruler to draw a line segment that is $2\frac{1}{4}$ inches long.

What are the next four numbers in each sequence?

8. (2) 9, 18, 27, ____, ____, ____, ____, …

9. (2) 33, 44, 55, ____, ____, ____, ____, …

Add or subtract, as shown:

10. (21, 24) 64¢ + 46¢ + $1.00

11. (26) $4.58 − $2.50

12. $649 + $350 *(16)*

13. 100 − 33 *(28)*

14. 9 + 8 + 7 *(10)*

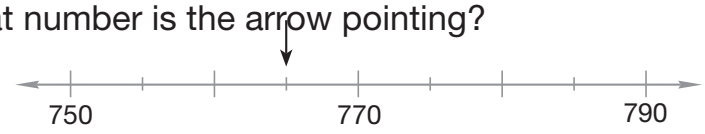
15. $625 − $175 *(19)*

16. Find the missing addend: 10 + 15 + ☐ = 75 *(9, 24)*

17. **Analyze** Sarah paid for a 58¢ item with three quarters. What is the fewest number of coins she should get back in change? *(14, 25)*

18. A mile is 1,760 yards. Use words to write that number. *(32)*

19. To what number is the arrow pointing? *(33)*



20. **Represent** Draw a picture of this story. Then answer the question with a complete sentence. *(31)*

Simpson walked 3 yards south, then 2 yards west, then 3 yards south, then 4 yards east, then 6 yards north. In which direction and how far should Simpson walk to return to where he started?

LESSON 36

• Some and Some More Stories, Part 2

Power Up

facts

Power Up 36

jump start

Count up by 10s from 1 to 91.
Count up by 7s from 0 to 49.

Write 413 in expanded form.

Draw a segment that is 1 inch long.

mental math

a. **Number Sense:** 11 + 10

b. **Measurement:** How many inches are in 1 foot?

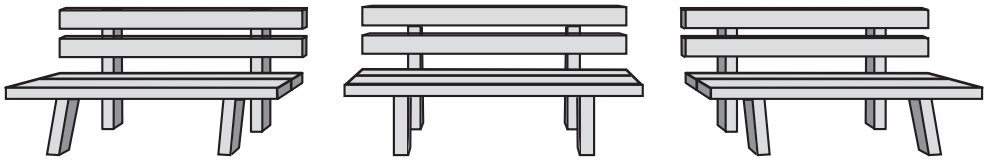
c. **Time:** Mike started his homework at 3:25 in the afternoon. He finished it 2 hours later. What time did Mike finish his homework?

d. **Patterns:** What number is missing from the pattern shown below?

12	14	16	18	____

problem solving

Four children can sit on each park bench. If there are 3 benches, how many children can sit on the benches?



New Concept

Recall that some and some more stories have three (or more) numbers.

Some + some more = total

Usually, one number will be missing. If we know the other numbers, we can figure out the missing number. A story may ask a question about any one of the numbers.

Example 1

John rode his bike nine miles in the morning. He rode his bike some more in the afternoon. In all, John rode his bike fifteen miles. How many miles did he ride in the afternoon?

This is a some and some more story.

$$\text{Some} + \text{some more} = \text{total}$$

$$\underset{\text{(morning)}}{9 \text{ miles}} + \underset{\text{(afternoon)}}{? \text{ miles}} = \underset{\text{(all)}}{15 \text{ miles}}$$

Instead of using a question mark, we can use a letter to stand for the unknown number.

$$9 + m = 15$$

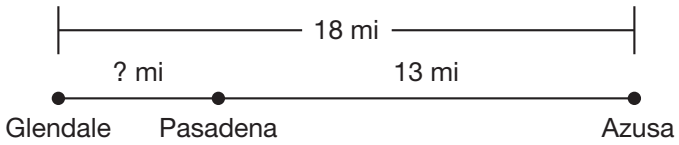
We can also write the information this way.

$$\begin{array}{rr} \text{Some} & 9 \\ +\ \text{Some more} & +\ m \\ \hline \text{Total} & 15 \end{array}$$

How many miles did John ride in the afternoon? Since $9 + 6 = 15$, we answer, **"John rode his bike 6 miles in the afternoon."**

Example 2

Pasadena is on the road between Glendale and Azusa. It is 13 miles from Pasadena to Azusa and 18 miles from Glendale to Azusa. How far is it from Glendale to Pasadena?



This is a some and some more story. From Glendale to Pasadena is some of the distance. From Pasadena to Azusa is some more of the distance. From Glendale to Azusa is the total distance.

$$\text{Some} + \text{some more} = \text{total}$$

$$\square \text{ mi} + 13 \text{ mi} = 18 \text{ mi}$$

We will use ☐ to stand for the unknown distance from Glendale to Pasadena.

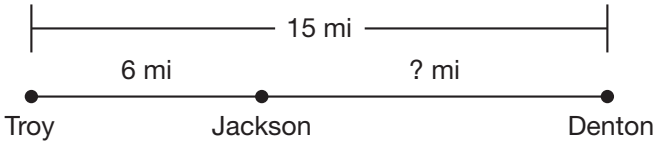
$$\square + 13 = 18$$

Since $5 + 13 = 18$, **from Glendale to Pasadena is 5 miles.**

Connect How would you write ☐ + 13 = 18 as a related subtraction problem? How do you know your answer is correct?

Lesson Practice

a. Refer to the map to answer the question. How far is it from Jackson to Denton?



b. A biathlon is a race that includes running and biking. In a biathlon, Jeff ran and biked a total of 36 miles. He biked 24 miles. How many miles did he run?

c. Write a some and some more story with a question for this number sentence.

$$\square \text{ mi} + 6 \text{ mi} = 10 \text{ mi}$$

Written Practice

Distributed and Integrated

1. (16) Nelson bought a pair of stilts for $199. The sales tax was $16. What was the total price of the stilts, including tax?

2. (36) **Analyze** On stilts, Nelson stood 12 inches taller. If Nelson was 68 inches tall standing on stilts, how tall was Nelson when he was not standing on stilts?

3. (15) Round the total price of the stilts in problem **1** to the nearest hundred dollars.

4. (12) Nelson wrote a check to *Joys of Toys* for the total price of the stilts in problem **1**. Write the price of the stilts using words.

5. (34) **Verify** The distance from Tan's house to the park is 100 yards. Is 100 yards equal to 30 feet or 300 feet?

6. (17, 25) **Explain** Which has greater value, three quarters or seven dimes? How do you know?

7. (34) Mr. Simms is 6 feet tall. Continue this table to find how many inches tall Mr. Simms is.

Feet	1	2	3	4	5	6
Inches	12	24	36	48		

What are the next four numbers in each sequence?

8. (2) 14, 21, 28, ____, ____, ____, ____, . . .

9. (2) 8, 16, 24, ____, ____, ____, ____, . . .

Add or subtract, as shown:

10. (19) $987 − $245

11. (16) $650 + $250

12. (26) $7.95 − $1.50

13. (10) 6 + 6 + 6 + 6

14. (28) 200 − 122

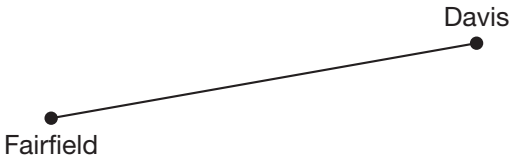
15. (22) $5.49 + $0.86

16. (9) Find the missing addend: $100 = m + 25$

17. (32) Write “six-hundred three thousand, six hundred forty” using digits.

18. (29) What fraction of a dollar is 3 quarters?

19. (35) Use a ruler to measure the distance from Davis to Fairfield on this map.



20. (32) This odometer display shows how many miles? Write the number with digits and with words.

LESSON 37

• Estimating Lengths and Distances

Power Up

facts

Power Up 37

jump start

Count up by 2s from 0 to 40.
Count up by 4s from 0 to 40.

Write "twenty-five dollars and ninety cents" using a dollar sign and digits.

Draw a segment that is 3 inches long.

mental math

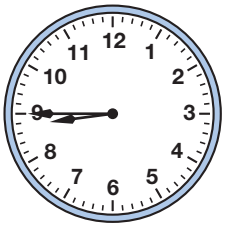
a. **Money:** Which has the greater value?

3 nickels or 30¢

b. **Number Sense:** 40 + 40

c. **Number Sense:** 3 + 9 + 7

d. **Time:** It is night. What time will it be 3 hours after the time shown on this clock?



problem solving

The years 2000 and 2004 were leap years. The year 2028 will also be a leap year. Use a pattern of counting by 4s to list the leap years between 2004 and 2028.

New Concept

In this lesson, you will measure lengths and distances. You and a partner will choose six objects or distances to measure.

You will measure two of the objects in inches. These should be small objects like the length of a pencil or the width of a book.

You will measure the next two objects or distances in feet. These should be larger objects like the length of a row of desks or the distance from your seat to the chalkboard.

You will measure the final two objects or distances in yards. These should be several yards such as the length or width of the classroom.

Estimating and Measuring Lengths

Materials: ruler, yardstick

Copy the chart below on a piece of paper. With your partner, decide on six objects to measure and record them in the first column of the chart.

Object to be measured	Estimated length	Measured length
1.	inches	inches
2.	inches	inches
3.	feet	feet
4.	feet	feet
5.	yards	yards
6.	yards	yards

Before you measure with a ruler or yardstick, estimate the measure of each object or distance you choose. We estimate by making a careful guess. You may want to take small steps by placing one foot just in front of another to help you estimate feet. You can take big steps to help you estimate yards. You should discuss your estimates with your partner. Write down your estimate before you measure with a ruler or yardstick.

When measuring yards, you can use three rulers instead of a yardstick. Record the closest whole number of inches, feet, or yards for each object measured.

Analyze Find 2 items in the classroom that would measure about 1 foot together.

Lesson Practice

a. Estimate the height of your classroom in yards. (Hint: Imagine taking big steps up the wall.)

b. Use your answer to problem **a** to estimate the height of your classroom in feet.

Written Practice

Distributed and Integrated

Formulate Write number sentences for the stories in problems **1** and **2.** Then answer each question.

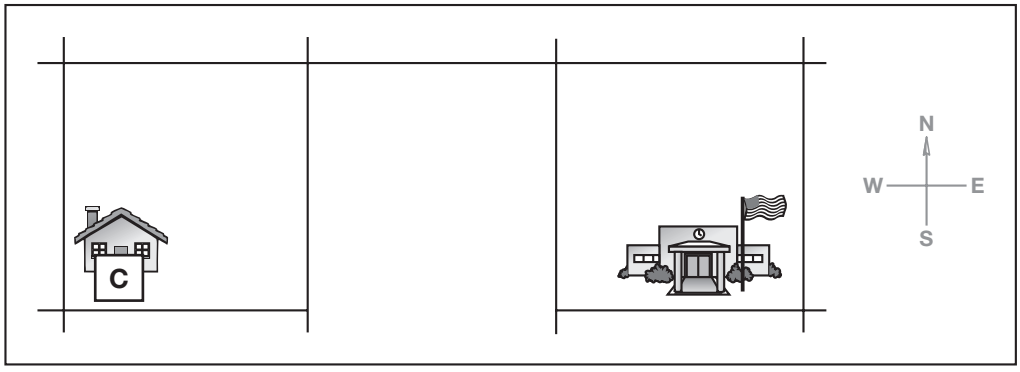
(21, 22) **1.** Bill spent a dollar and a half for a salad and a dollar and a half for a sandwich. Altogether, how much did Bill spend on the salad and sandwich?

(36) **2.** Sherry rode her bike 11 miles in the morning. She rode again in the afternoon. Altogether, Sherry rode 25 miles. How many miles did she ride in the afternoon?

(16, 18) **3.** Sherman bought four pirate costumes for $165 plus $13 tax. What was the total price of the costumes with tax?

(12) **4.** Write the answer to problem **3** using words.

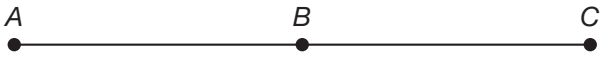
(31) **5.** Connie walks 5 blocks to school. This map shows Connie's house and school. Write directions that describe one route to Connie's house from school.



(11, 32) **6.** Write 5,280 in expanded form.

7. (2, 13) **Justify** It takes about 20 minutes to walk a mile. About how long would it take to walk two miles? Explain how you found your answer.

8. (35) Use your ruler to measure the length of each segment.



a. From point *A* to point *B*

b. From point *B* to point *C*

c. From point *A* to point *C*

9. (3) Daniel hurried home from school. He saw a clock through a store window. What time was it?

10. (15, 27)

a. Write these amounts in order from least to greatest: $116, $120, $110.

b. Is $116 closer to $100 or $200?

11. (14, 25) Sara owed 83¢. She paid with nine dimes. List the coins she should get back.

12. (2) A week is 7 days. Copy and extend this table to find the number of days in 8 weeks.

Weeks	1	2	3	4				
Days	7	14	21					

Add or subtract, as shown:

13. (10) $4 + 5 + 6 + 7$

14. (28) $300 - 95$

15. (21, 24) 50¢ + 48¢ + 92¢

16. (19) $360 - $150

17. (16) $547 + $20

18. (26) $2.80 - $2.75

19. (9) Find the missing addend: $100 = m + 25$

20. (35) **Represent** Use a ruler to draw the line and points from problem **8** on your paper. Include point *D* so that the length from point *A* to point *D* is $3\frac{1}{4}$ inches.

Real-World Connection

Kyle collects baseball cards. He collected 250 cards the first year and gave 94 away. The following year he collected 36 cards and gave away 17. How many cards did Kyle have at the end of the second year? Write number sentences to show your answer.

LESSON 38

• Reading a Clock to the Nearest Minute

Power Up

facts

Power Up 38

jump start

Count up by halves from 0 to 5.
Count up by 5s from 25 to 75.

Write a fact family using the numbers 4, 9, and 13.

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

mental math

a. **Number Sense:** 13 − 8

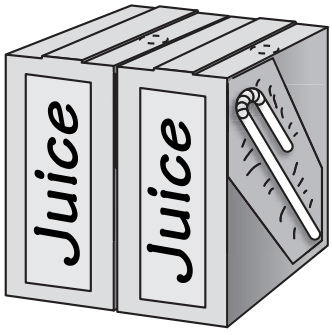
b. **Number Sense:** 200 + 50 + 8

c. **Money:** $1.00 − $0.75

d. **Money:** Find the value of these bills and coins:

problem solving

The grocery store sells juice boxes in packages of 2 boxes. Joy bought 8 juice boxes altogether. How many packages did she buy?



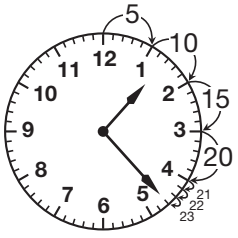
New Concept

In Lesson 3 we learned to read an analog clock to the nearest 5 minutes. We recall that the analog clock is a circular "scale" showing the numbers 1 through 12. There are tick marks between the numbers.

The short hand is the hour hand and it moves all the way around the clock in twelve hours. The long hand is the minute hand and it moves from one tick mark to the next tick mark in one minute. The minute hand moves all the way around the clock in one hour.

Example 1

It is afternoon. Write the time shown on the clock in digital form.

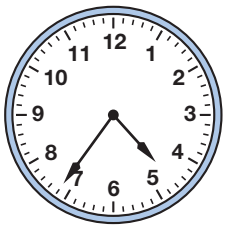


The hour hand is between the 1 and the 2, so it is after 1 p.m. The minute hand is between the 4 and the 5. We skip count by fives until we get to the number before the minute hand: 5, 10, 15, 20. Then, we count the tick marks by ones until we get to the mark the minute hand is pointing to: 21, 22, 23. The time to the minute is **1:23 p.m.**

Example 2

Use your student clock to show this time:

Another way to say 4:36 is thirty-six minutes after four. Since we know it is after 4, we show the hour hand between 4 and 5. To show the minute hand, we start at 12 and move the minute hand as we skip count by fives to 35. Then we move the hand 1 tick mark to get to 36.



Example 3

The clock shows the time Donald started his homework after school. Write the time in digital form.

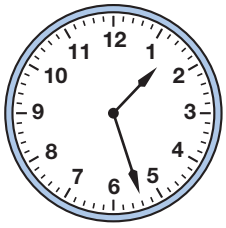
Donald started his homework at **4:17 p.m.**

Discuss What are some situations when it would be important to know the time to the exact minute?

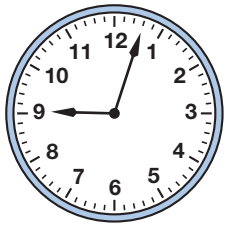
Lesson Practice

If it is morning, what time is shown by each clock?

a.



b.



c.

Written Practice

Distributed and Integrated

(22, 36) **1.** **Formulate** Delia spent $10.00 at the show. She paid $7.50 for the ticket and spent the rest for snacks. How much did Delia spend for snacks? Write a number sentence and then the answer.

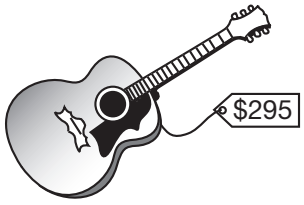
(16, 18) **2.** Neil bought a five-foot-long sled for $399. Sales tax was $32. Find the total price of the sled with tax.

(12) **3.** Write the answer to problem **2** using words.

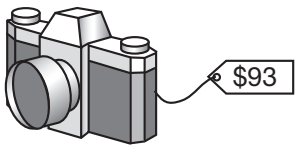
(29) **4.** What fraction of a dollar is a 50¢ coin?

(15) **5.** Round these prices to the nearest ten or hundred dollars:

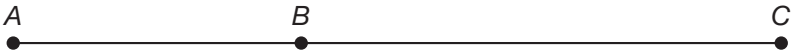
a. nearest hundred dollars



b. nearest ten dollars



6. (35) Use your ruler to measure the segments in inches:



a. From point *A* to point *B*

b. From point *B* to point *C*

c. From point *A* to point *C*

7. (34, 37) **Multiple Choice** The length of your arm is nearly

A 2 inches **B** 2 feet **C** 2 yards **D** 2 miles

8. (32) Write the number of miles on this odometer display with digits and with words.

9. (25) The folder cost 78¢. Tom paid for it with three quarters and one nickel. List the coins he should get back.

Conclude Find the next four numbers in each sequence:

10. (2) 8, 12, 16, ____, ____, ____, ____, . . .

11. (2) 8, 16, 24, ____, ____, ____, ____, . . .

12. (25) Extend this table to find the value of 6 quarters.

Quarters	1	2	3	4		
Value	$0.25	$0.50	$0.75	$1.00		

13. (15, 30) The bicycle tire cost $12.

a. Round the price to the nearest ten dollars.

b. Use the rounded price to find about how much two tires would cost.

Add or subtract, as shown:

14. (10) 3 + 3 + 3 + 3

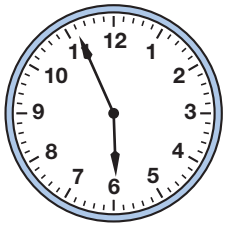
15. (28) 200 − 38

16. (21, 24) 75¢ + 75¢

17. (26) $4.50 − $0.25

18. *(34)* **Analyze** If a table is 2 yards long, then it is how many inches long?

19. *(3, 38)* The sun rose at the time shown on the clock. Write the time in digital form.



20. *(36)* Three cities lie on a road as shown. From Vaughn to Fort Sumner is 58 miles. From Yeso to Fort Sumner is 22 miles. How far is it from Vaughn to Yeso?

Early Finishers

Real-World Connection

Samantha had a party. She invited 10 friends. Each of her friends invited 2 more friends. If everyone invited came to the party, how many people, including Samantha, were there? You may use manipulatives to help you find the answer.

LESSON 39

• Stories About Comparing

Power Up

facts

Power Up 39

jump start

Count up by 3s from 0 to 30.
Count up by 9s from 0 to 90.

It's night. Draw hands on your clock to show 9:04.
Write the time in digital form.

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

mental math

a. **Number Sense:** 15 − 8

b. **Money:** 50¢ − 40¢

c. **Calendar:** The year 2008 is a leap year. Which of the following years is a common year?

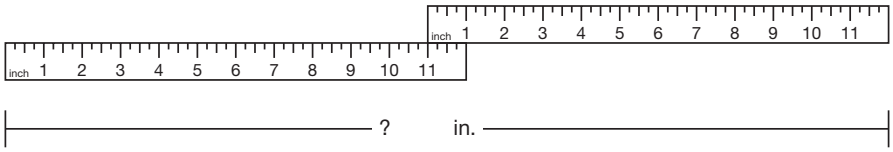
2000 **2004** **2009** **2012**

d. **Patterns:** What number is missing from the pattern shown below?

3	6	____	12	15

problem solving

Josh has two rulers that are each 12 inches long. He placed them as shown in the picture. What is the length from end to end?



New Concept

We have learned to solve problems about combining and problems about separating. In this lesson we will learn how to solve two kinds of problems about comparing:

$$\text{Later} - \text{earlier} = \text{difference}$$

$$\text{Greater} - \text{lesser} = \text{difference}$$

First we will look at problems about comparing two dates. We can subtract to find the number of years between two dates.

$$\text{Later} - \text{Earlier} = \text{Difference}$$

We start with the later date, and we subtract the earlier date. The difference is the number of years between the two dates.

Example 1

How many years were there from Charles Lindbergh's flight across the Atlantic in 1927 until Armstrong and Aldrin walked on the moon in 1969?

The later date is 1969. The earlier date is 1927. We subtract.

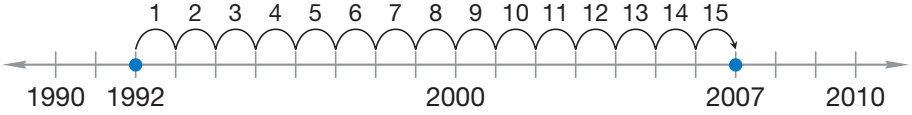
Later	1969
− Earlier	− 1927
Difference	**42**

There were **42 years** between the two events.

Example 2

How old was Gloria on her birthday in 2007 if she was born in 1992?

We will use a timeline to solve this problem. Since Gloria was born in 1992, we will start at 1992 on the timeline. We will count up to 2007.



Gloria was **15** on her birthday in 2007.

Connect When you count up on a number line, are you adding or subtracting? What is the relationship between $2007 - 1992 = \square$ and $1992 + \square = 2007$?

We can also subtract to find the difference between two amounts being compared.

Greater − lesser = difference

We start with the greater amount, and we subtract the lesser amount. The difference tells how much greater the bigger number is (or how much smaller the lesser number is).

Example 3

Frederick and his brother played a board game. Frederick scored 354 points. His brother scored 425 points. How many more points did Frederick's brother score than Frederick?

The greater amount is 425. The lesser amount is 354. We subtract.

Greater	425 points
− Lesser	− 354 points
Difference	**71 points**

Frederick's brother scored **71 more points** than Frederick.

Lesson Practice

Write later − earlier = difference number sentences for problems **a** and **b.** Then answer each question.

a. The telephone was invented in 1876. This was how many years after the telegraph was invented in 1844?

b. The bar code that is printed on products was invented in 1974. The laser that is used to read the bar codes was invented in 1960. The bar code was invented how many years after the laser?

Write a greater − lesser = difference number sentence for problem **c.** Then answer the questions.

c. Rose saved her money and bought a stereo that cost $238. Hans saved his money and bought a stereo that cost $255. Whose stereo cost more? How much more?

Written Practice

Distributed and Integrated

(22, 29) **1.** Cindy spent a dollar and a quarter for a milk shake and a dollar and a half for a chicken sandwich. Altogether, how much did Cindy spend on the milk shake and the sandwich?

(36) **2.** Twelve of the 28 children in the class were boys. How many girls were in the class? Write a number sentence and then answer the question.

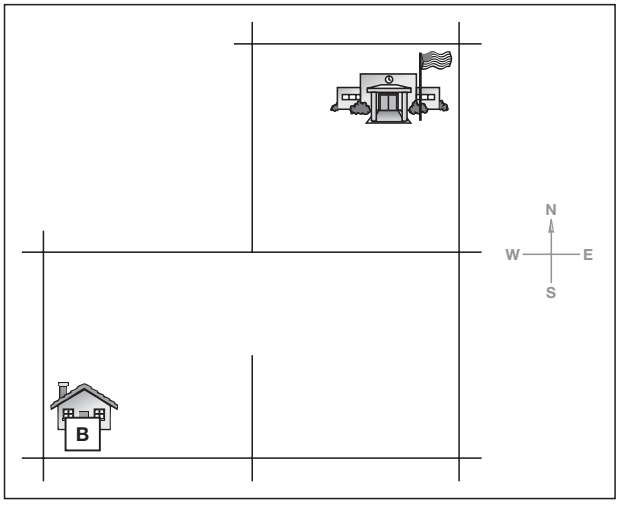
(12) **3.** The grocery bill was $116. Write that amount using words.

(15) **4.** Rounded to the nearest hundred dollars, what is the grocery bill in problem **3**?

(31) **5.** This map shows Bill's house and school.

a. Bill lives how many blocks from school?

b. Write directions to Bill's house from school.



(29) **6.** Which coin is $\frac{1}{10}$ of a dollar?

(35) **7.** **Represent** Draw a line that is $2\frac{1}{2}$ inches long.

(2, 11) **8.** Driving along the highway, Nathan saw the tens digit of the trip odometer change about every ten minutes. He saw 150, 160, and 170. What are the next four numbers in this sequence?

150, 160, 170, ____, ____, ____, ____, …

9. (25) The ice cream sandwich cost 64¢. Bret paid for it with three quarters. List the coins he should get back.

10. (15, 30) A ticket to the amusement park cost $38.

a. Round $38 to the nearest ten dollars.

b. Use the rounded price to find about how much two tickets would cost.

11. (25) How much money is five quarters, four dimes, three nickels, and two pennies?

Add or subtract, as shown:

12. (16) $76 + $284

13. (28) 100 − 63

14. (21, 24) 37¢ + 48¢ + $1

15. (26) $8.50 − $6.30

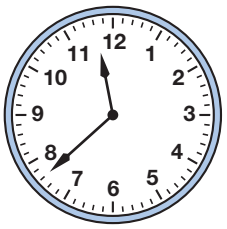
16. (34, 37) **Multiple Choice** Your classroom door is about how wide?

A 1 inch **B** 1 foot **C** 1 yard **D** 1 mile

17. (21, 27) **Analyze** Arrange these amounts of money in order from least to greatest: $2, $0.08, 12¢.

18. (32) Write nine hundred thousand, three hundred thirty-two using digits.

19. (38) Albert was eager for lunch. He glanced at the clock on the wall. What time was it?



20. (25, 39) Emma has four quarters and three dimes. Angela has nineteen dimes. Which girl has more money? Write and solve a greater − lesser = difference problem to show how much more.

Early Finishers

Real-World Connection

The odometer on the Allgood's car reads 3,632 miles. Mr. Allgood wants to get a tune-up for the car when the odometer reads 5,000 miles. How many more miles can Mr. Allgood drive before he has to take his car in for a tune-up?

LESSON 40

• Missing Numbers in Subtraction
• Some Went Away Stories, Part 2

Power Up

facts

Power Up 40

jump start

Count up by 10s from 2 to 92.

Count up by 7s from 0 to 49.

It's morning. Draw hands on your clock to show 7:33. Write the time in digital form.

Write "one thousand three hundred" using digits.

mental math

a. **Money:** 60¢ + 20¢

b. **Number Sense:** 20 − 8

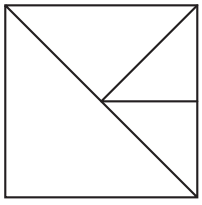
c. **Money:** Which of these amounts has the greatest value?

$1.23 $1.45 $1.20

d. **Number Line:** Which point stands for the number 17?

problem solving

Copy this picture on your paper. Then trace each triangle in your picture. How many different triangles can you find?



New Concepts

Missing Numbers in Subtraction

We have solved subtraction problems to find the difference between two numbers. In this lesson we will solve problems that are missing a different number.

$19 - m = 7$ "Nineteen minus what number equals seven?"

$\square - 30 = 42$ "What number minus thirty equals forty-two?"

Remember that subtraction is separating one larger group into two smaller groups. The first number is always the greatest and the other two numbers are smaller. If the first number is missing, we can add the other two numbers to find the answer. If the second number is missing, we can subtract the difference from the first number to find the missing number.

Connect Think of the second number sentence above as a member of a fact family and write the family's two addition facts. How can these addition facts help us find the answer?

Example 1

Find each missing number:

a. $80 - \square = 45$ **b.** $m - 13 = 18$

a. The second number is missing. We can subtract 45 from 80 to find the answer: $80 - 45 =$ **35.**

b. The first number is missing. We can add the other two numbers to find the answer: $18 + 13 =$ **31.**

Some Went Away Stories, Part 2

Remember that some went away stories can be written two ways:

Some − some went away = what is left

$$\begin{array}{r} \text{Some} \\ -\ \text{Some went away} \\ \hline \text{What is left} \end{array}$$

We have solved several problems to find "what is left." In this lesson we will learn to solve problems in which one of the other numbers is missing.

Example 2

Read the following story and write a some went away number sentence. Then find the missing number.

Estelle went into the store with $150. She bought some items and left with $62. How much money did Estelle spend in the store?

Estelle had $150. After spending some, she had $62.

$$\$150 - \square = \$62$$

We can subtract $62 from $150 to find the answer: $150 − $62 = $88. **Estelle spent $88 in the store.**

Example 3

Carson had a big bag of marbles. He gave his best friend 54 marbles. Carson had 80 marbles left. How many marbles did Carson have before he gave any marbles to his friend? Write and solve a some went away number sentence to find the answer.

Carson had some marbles. Then 54 went away. He had 80 marbles left.

$$m - 54 = 80$$

We can add to find the missing number: 54 + 80 = 134. **Carson had 134 marbles.**

Lesson Practice

Find each missing number in problems **a–c.**

a. $\square - 16 = 16$

b. $66 - m = 24$

c. $\square - 388 = 125$

d. Before the carnival, Angus had $21.50. He spent some money on rides and food. After the carnival, Angus had $9.00. How much did Angus spend at the carnival? Write and solve a some went away problem to find the answer.

Written Practice

Distributed and Integrated

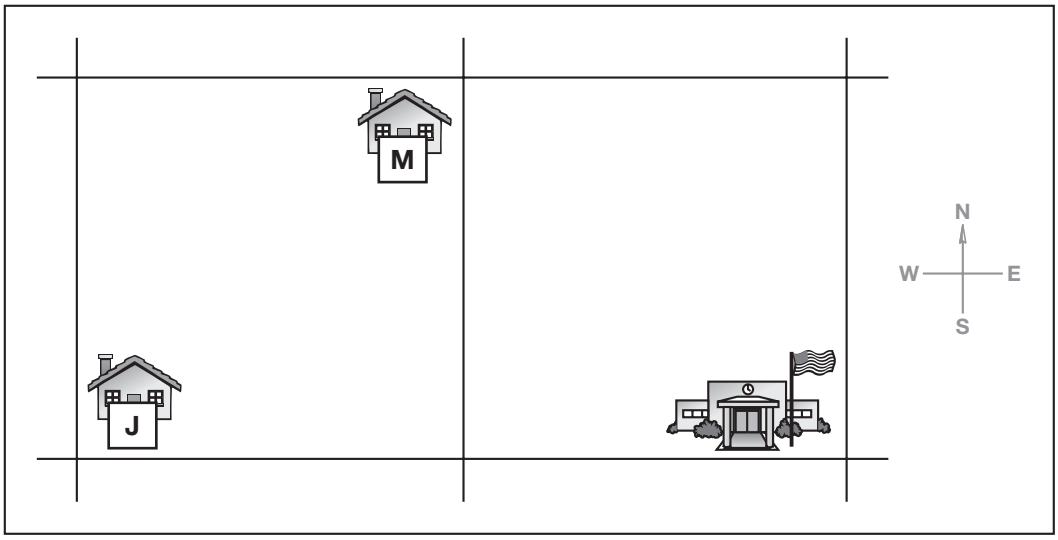
1. (14) The blender cost $37. Debbie gave the clerk a $50 bill. How much money should Debbie get back?

2. (25) Nicole found 5 quarters in her purse and 5 more quarters in a drawer. Altogether, how much money did she find?

3. (12) Four new tires cost two hundred eighty-nine dollars. Use digits and a dollar sign to write that amount.

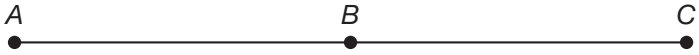
4. (15) Is the cost of the four tires in problem **3** closer to $200 or $300?

5. (31) John lives two blocks from Mike's house and two blocks from school. John stops at Mike's house before he goes to school. Describe a way John could walk to Mike's house and on to school without walking twice on the same street.



6. (29) **Justify** It takes about 20 minutes to walk a mile. About how long would it take to walk half a mile? Explain how you found your answer.

7. (35) Use your ruler to measure the segments.



a. From point *A* to point *B*

b. From point *B* to point *C*

c. From point *A* to point *C*

8. (39) **Analyze** Denzel was born in 1987. His sister Angie was born in 1972. What is the age difference between Denzel and Angie? Who is older?

9. (14, 25) The carton of milk cost 55¢. Derek paid for the milk with two quarters and a dime. List the coins he should get back.

10. (2) **List** Count by nines from 9 to 99. Write the list on your paper. Start like this: 9, 18, . . .

11. (31) **Represent** Draw a map to solve this problem. Mac lives 2 blocks west of school and Jason lives 3 blocks east of school. In which direction and how far does Mac walk from his home to Jason's home?

12. (34) To make a "first down" in football, the team needs to move the ball forward at least 10 yards. Copy and extend this table to find the number of feet in 10 yards.

Yards	1	2	3	4	5	6	7	8	9	10
Feet	3	6	9							

Add or subtract, as shown:

13. (22) $\$5.48 + \$3.27$

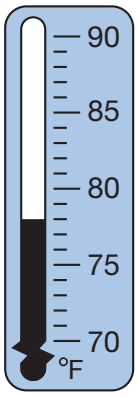
14. (19) $\$450 - \$150$

15. (10) $4 + 4 + 4 + 4$

16. (28) $500 - 75$

17. (9) Find the missing addend: $25 + m = 75$

18. (4) As Della swam laps, she paused to check the pool thermometer. What temperature was the water?



19. (35) **Represent** Draw two line segments. Make one segment $1\frac{1}{4}$ inches and the other $1\frac{3}{4}$ inches.

20. (39) Marco has 35 stickers. After decorating his notebook, he had 29 stickers left. How many stickers did Marco use to decorate his notebook? Write a some went away number sentence to help you find the answer.

Focus on

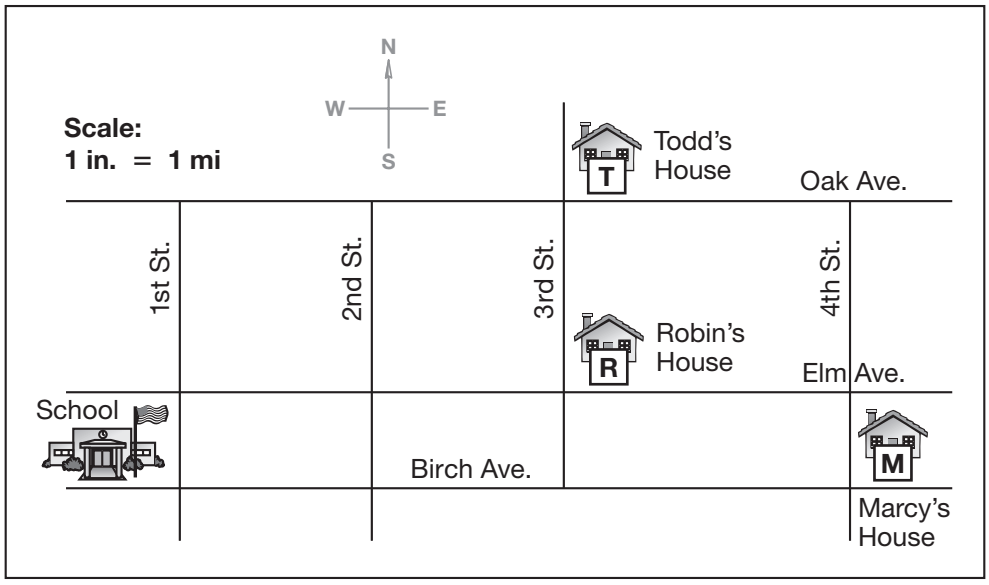
• Scale Maps

When you draw a map from school to home, you want the distance on the map to accurately represent the distance you travel. We call this drawing the map to **scale.** On a map drawn to scale, each inch on the map equals a certain number of miles.

Each inch on this map equals one mile. To find the actual distance from Robin's house to the school, use your ruler to measure the distance on the scale map. The line segment between Robin's house and school measures 2 inches. Since one inch equals one mile, two inches equal two miles. So the actual distance from Robin's house to the school is 2 miles.

We can also describe the streets as either parallel or perpendicular to each other. Line segments are **perpendicular** if they intersect and make square corners, like Birch Avenue and 2nd Street. Line segments are **parallel** if they do not intersect and stay in the same distance apart, like 1st Street and 2nd Street.

Use your ruler and this map to answer problems **1–8.**



1. How far is it from Todd's house to school if he travels along the lines (roads)?
2. If Todd wants to take the shortest route to school, how many choices does he have?

3. How far does Todd ride his bike each day traveling from home to school and back home?
4. How far is it from Marcy's house to school?
5. How many miles is it from Todd's house to Marcy's house along the roads?
6. Todd rode his bike from school straight to Marcy's house. Then he rode home. How far did Todd ride?
7. Name two streets parallel to Oak Avenue.
8. Name two streets perpendicular to Oak Avenue.

Scale Map

Draw a map that matches the directions below. Let each mile be one inch on the map.

> *Jaime lives on the northeast corner of Maxwell St. and Grand Ave. On his way to school, Jaime rides two miles east on Maxwell. Then he turns south on Lime Ave. and rides one mile to Newton St. The school is on the southwest corner of Newton and Lime. Lime is parallel to Grand, and Newton is parallel to Maxwell. All streets are straight and Newton and Grand intersect.*

Then write directions that describe how Jaime can get home from school by riding on Newton and Grand.

two miles west on Newton. Turn right on Grand, and ride one mile north.