LESSON 25

• Counting Dollars and Cents

Power Up

facts

Power Up 25

jump start

Count up by 7s from 0 to 35.
Count up by 25s from 0 to 200.

The class will visit the library at 1:40. Draw hands on your clock to show this time. Write the time in digital form.

The temperature in the classroom was 20°C. Mark your thermometer to show this temperature.

Write a fact family using the numbers 4, 6, and 10.

mental math

a. **Patterns:** 25, 50, 75, _____, 125

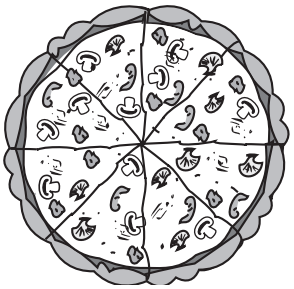
b. **Time:** 10 minutes − 8 minutes

c. **Money:** $6 + $7

d. **Money:** Write the total value of these coins with a dollar sign.

problem solving

The pizza is cut into 8 slices. Dewayne, Emma, Franki, and Gem will share the pizza. Act out this problem to find how many slices of pizza each student can have.



New Concept

There are many ways to count the value of a group of bills and coins. We will practice counting the money by starting with the coins with the greatest value.

Example 1

What is the value of these coins?

We will count the coins in groups according to their value. We can skip count to find the total.

25¢ 50¢ 60¢ 70¢ 80¢

85¢ 90¢ 95¢ $1.00 $1.01 $1.02 $1.03 $1.04

The total is **$1.04.**

Example 2

Find the total value of these bills and coins.

We start with \$2, add 50¢ to make \$2.50, add 10¢ to make \$2.60, then add 5¢ and 2¢ to make **\$2.67.**

Example 3

Write a number sentence that states the total value of a quarter plus a half-dollar.

Remember that a number sentence uses digits and other symbols to make a statement. Since a quarter is twenty-five cents and a half-dollar is fifty cents, we can write

25 cents + 50 cents = 75 cents

Instead of the word *cents*, we can use a cent sign or a dollar sign.

25¢ + 50¢ = 75¢

\$0.25 + \$0.50 = \$0.75

Each of these is a number sentence.

Example 4

This table shows the values of certain numbers of dimes. Continue and complete the table through six dimes.

Number of dimes	1	2	3	4	5	
Value in cents	10	20	30			

Number of dimes	1	2	3	4	5	**6**
Value in cents	10	20	30	**40**	**50**	**60**

Generalize What is the rule for each row in the above table?

Activity

Counting Money

Find the total value of the play money given to you by your teacher. Then select a set of bills and coins for others in your group to count. For more practice, count the coins shown on **Lesson Activity 12.**

Lesson Practice

a. What is the total value of these coins?

b. What is the total value of these bills and coins?

Write number sentences that state the total value of the following:

c. a quarter plus a dime plus a nickel

d. two quarters and three dimes

e. This table shows the values of certain numbers of nickels. Copy and complete the table through six nickels.

Number of nickels	1	2	3	4	5	
Value in cents	5	10	15			

Written Practice

Distributed and Integrated

Formulate Write number sentences for the stories in problems **1** and **2.** Write a complete sentence to answer each question.

1. (18, 22) The bus ride cost $2.50. The taxi ride cost $4.50. What was the cost of both rides?

2. (20) Karen had $87. She gave her friend $25. Then how much money did Karen have?

3. (25) Write a number sentence that states the total value of two quarters, a dime, and 3 pennies.

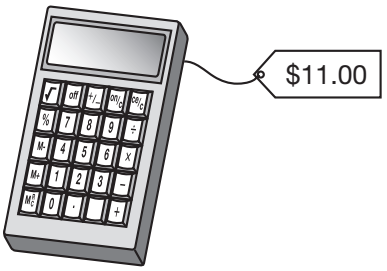
4. (22) **Model** Use money to show this addition. Then add using pencil and paper.

$$\begin{array}{r} \$\ 7.27 \\ +\ \$\ 1.45 \\ \hline \end{array}$$

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

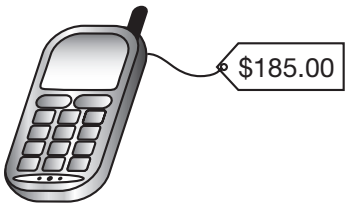
a.

b.

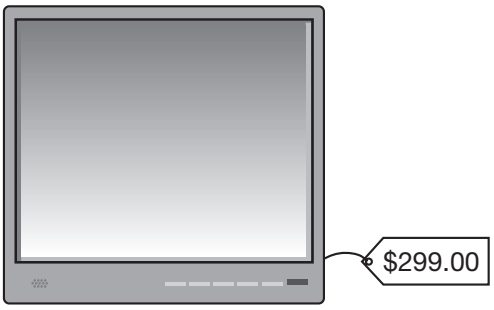


6. (15) Round these prices to the nearest hundred dollars:

a.



b.



7. (12) Use digits and a dollar sign to write two hundred three dollars.

8. (1, 20) After May 10, how many days are left in May?

9. (8) Use 8, 9, and 1 to write two addition facts and two subtraction facts.

What are the next four numbers in each sequence?

10. (2) 18, 27, 36, _____, _____, _____, _____, . . .

11. (2) 18, 24, 30, 36, _____, _____, _____, _____, . . .

Add or subtract, as shown:

12. (14) $89 − $11

13. (22) $4.25 + $3.50

14. (23) $387 − $55

15. (16) 570 + 25

16. (23) $865 − $330

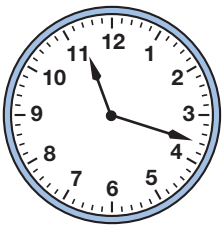
17. (10) 8 + 10 + 2

Find the missing addend:

18. (9) $65 + m = 75$

19. (9) $5 + 8 + \square = 15$

20. (3, 15) **Explain** Sarah woke up from a dream. It was dark outside. She looked at the clock. Was the time closer to 11:15 p.m. or 11:20 p.m.? How do you know?



LESSON 26 • Subtracting Dollars and Cents

Power Up

facts

Power Up 26

jump start

Count up by 2s from 0 to 30.
Count up by 3s from 0 to 30.

The swimming lesson ends at 4:25. Draw hands on your clock to show this time. Write the time in digital form.

The temperature of the water in the swimming pool was 87°F. Mark your thermometer to show this temperature.

Write 42¢ using words.

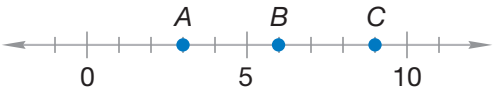
mental math

a. **Number Sense:** 15 + 10

b. **Time:** What is the time 2 hours after 1:15 p.m.?

c. **Estimation:** Is $220 closer to $200 or $300?

d. **Number Line:** Which point represents the number 9?



problem solving

Zach has 7 books. He will make two stacks with the books. Each stack will have at least 2 books. Complete this table to show the ways Zach could stack the books.

Stack 1	Stack 2
2 books	5 books
	2 books
4 books	
	4 books

New Concept

In this lesson we will practice subtracting dollars and cents using money and using pencil and paper. Read this "some went away" story.

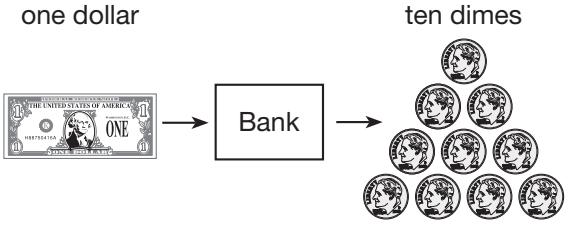
Example 1

Maribel took $7.50 on the field trip. She paid $3.80 for her lunch. How much money did she have left?

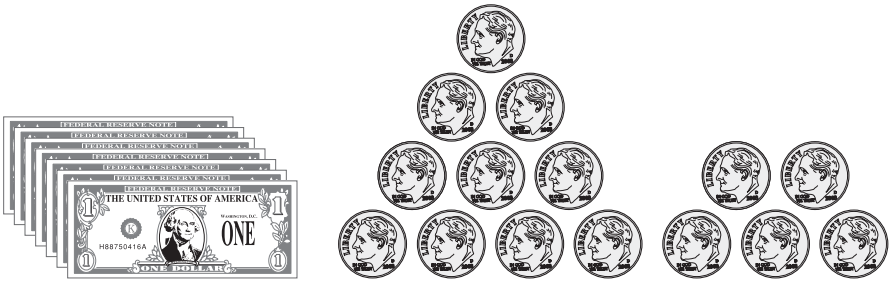
We put $7.50 on the desk to show how much money Maribel started with.

We need to take away $3.80, which is three $1 bills and eight dimes. There are not enough dimes on the desk so we will regroup.

We trade one $1 bill for ten dimes.



After we regroup, there are six $1 bills and 15 dimes, which is still $7.50.



Now we subtract $3.80 by taking away three $1 bills and 8 dimes. Maribel had **$3.70** left.

To subtract with pencil and paper, we start from the right.

$$\begin{array}{r} \text{Start} \\ \downarrow \\ \$7.50 \\ -\ \$3.80 \\ \hline \end{array}$$

We know that 0 pennies from 0 pennies is zero. Next, we look at the dimes. We cannot take 8 dimes from 5 dimes so we trade one $1 bill for ten dimes. Then we subtract.

$$\begin{array}{r} \text{Start} \\ 6 \quad \downarrow \\ \$\cancel{7}^{1}.50 \\ -\ \$3.80 \\ \hline \mathbf{\$3.70} \end{array}$$

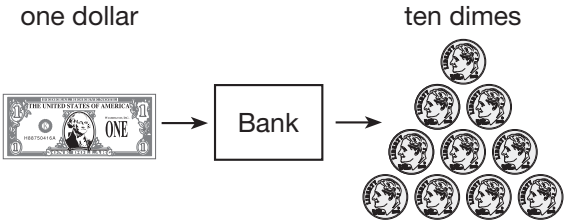
Example 2

Theresa went to the store with $4.32. She bought a gallon of milk for $2.48. Then how much money did she have?

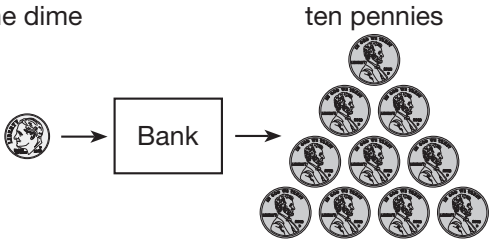
We put $4.32 on the desk to show how much money Theresa took to the store.

We need to take away $2.48, which is two $1 bills, four dimes, and eight pennies. Since there are not enough dimes and pennies on the desk, we will regroup.

We trade one $1 bill for ten dimes.



We will also trade one dime for ten pennies.



After we regroup there is still $4.32 on the desk in the form of three $1 bills, 12 dimes, and 12 pennies.

Now we subtract $2.48 by taking away two $1 bills, 4 dimes, and 8 pennies.

We see that Theresa has **$1.84** left.

To subtract with pencil and paper, we start from the right.

Start
↓

$$\begin{array}{r} \$4.32 \\ -\ \$2.48 \\ \hline \end{array}$$

We cannot subtract eight pennies from two pennies, so we trade one dime for ten pennies. Now we have 2 dimes and 12 pennies, so we can subtract the pennies.

$$\begin{array}{r} \overset{2}{\$4.\cancel{3}}\overset{1}{2} \\ -\ \$2.48 \\ \hline 4 \end{array}$$

We do not have enough dimes to subtract, so we trade one $1 bill for ten dimes. Now we have three $1 bills and 12 dimes, so we can finish subtracting.

$$\begin{array}{r} \overset{3}{\$\cancel{4}.}\overset{12}{\cancel{3}}\overset{1}{2} \\ -\ \$2.48 \\ \hline \mathbf{\$1.84} \end{array}$$

The bottom number shows us how much Theresa has left. Theresa has **$1.84.**

Verify How can you prove that $1.84 is correct?

Lesson Practice

Perform each subtraction using money manipulatives. Then solve using pencil and paper.

a. $4.30
− $1.17

b. $6.28
− $3.56

c. $5.25
− $3.78

d. Karen had $6.25. She paid the taxi driver $4.50. Then how much money did Karen have?

Written Practice

Distributed and Integrated

1. (14, 20) Linda had 64 cents. She spent 36 cents. Then how much money did she have?

2. (13, 18) Paul put a 39-cent stamp and a 25-cent stamp on the envelope. What was the total value of the stamps on the envelope?

3. (26) **Model** Use money to show this subtraction. Then subtract using pencil and paper.

$5.75 − $4.56

4. (22) **Model** Use money to show this addition. Then add using pencil and paper.

$6.89 + $4.56

5. (15) Round $12 to the nearest ten dollars.

6. (15) Round $322 to the nearest hundred dollars.

7. (12) Use words to write $24.

8. (17, 25) **Explain** Li wants to buy a snack that costs $1.00. He has one quarter, two dimes, one nickel and four pennies. His friend gave him a quarter. Does Li have enough money to buy the snack? Explain your answers.

9. (5) Class started at a quarter to nine in the morning. Write this time in digital form.

What are the next four numbers in each sequence?

10. (2) 48, 44, 40, 36, _____, _____, _____, _____, . . .

11. (2) 70, 63, 56, _____, _____, _____, _____, . . .

Add or subtract, as shown:

12. (22) $3.48 + $2.60

13. (23) $385 − $250

14. (24) 38 + 47 + 10

15. (23) $346 − $34

16. (10) 8 + 7 + 5 + 9

17. (21, 26) $1.77 − $1.25

Find the missing addend:

18. (9) $m + 5 = 25$

19. (9, 10) $6 + \square + 3 = 19$

20. (25) **Multiple Choice** Which of these does NOT equal one dollar?

A four quarters
B ten dimes
C fifteen nickels
D one hundred pennies

Early Finishers
Real-World Connection

Ashton had a treasure hunt at his birthday party. His father hid 130 small prizes for the children to find. Team 1 found 26 items, Team 2 found 35, and Team 3 found 48. How many of the small prizes were not found?

LESSON 27

• Comparing and Ordering, Part 2

Power Up

facts

Power Up 27

jump start

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

Music class begins at 9:20 in the morning. Draw hands on your clock to show this time. Write the time in digital form.

The high temperature was 95°F. Mark your thermometer to show this temperature.

Write a fact family using the numbers 3, 9, and 12.

mental math

a. Money: 25¢ + 10¢

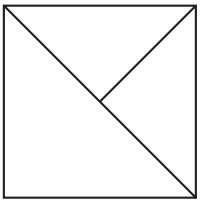
b. Time: It is morning. What time will it be 4 hours after the time shown on this clock?

c. Number Sense: 8 + 9

d. Estimation: Is $525 closer to $500 or $600?

problem solving

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



New Concept

In this lesson, we will compare numbers. We will arrange groups of 3 or more numbers in order from least to greatest **or** from greatest to least.

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

To write a group of numbers from least to greatest, we start with the least (smallest) number and then write the other numbers in order. To write a group of numbers from greatest to least, we start with the greatest (or largest) number and then write the other numbers in order.

Example 1

Karen has $261. Jamal has $237. Who has more money? Write < or > in place of the circle to complete the comparison.

$261 ◯ $237

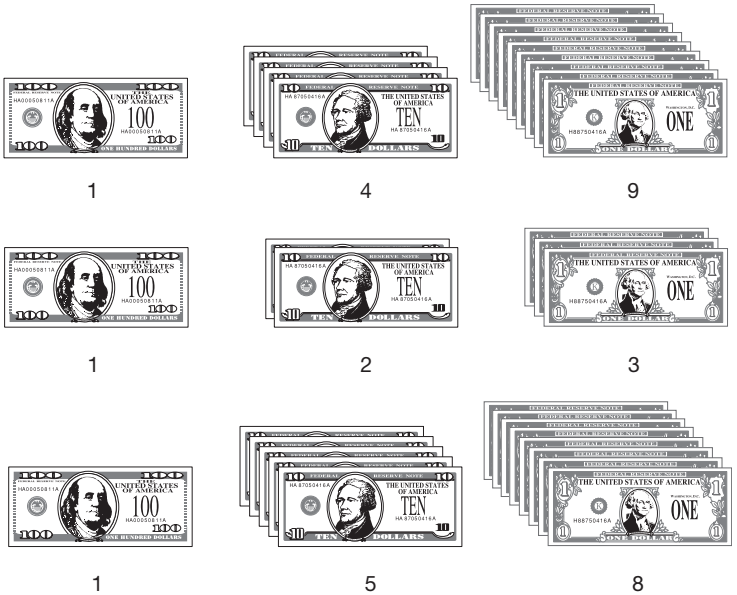
We will use place value to compare $261 and $237. First, we look at the hundreds place. There are 2 hundreds (two $100 bills) in $261 and 2 hundreds in $237. Since the amount of hundreds in each number is the same, we look next at the tens place. There are 6 tens in $261 and 3 tens in $237. We know that 6 is more than 3, so $261 is greater than $237.

$261 > $237

Example 2

Amado looked at three remote control airplanes at the toy store. The planes cost $149, $123, and $158. Arrange these numbers in order from greatest to least.

We will use money manipulatives to find the order of these three amounts. First, we show $149, $123, and $158 on your desk using money from the money kit.



We will look at the $100 bills first. The $100 bills are equal in all three amounts. Next we look at the $10 bills. The number of $10 bills in order from greatest to least is 5, 4, 2. We will start with $158, which is the greatest number. The cost of the remote control airplanes from greatest to least is **$158, $149, $123.**

Example 3

The third grade classes at Cook Elementary collected aluminum cans. Mr. Brown's class collected 324 cans, Mrs. Jones's class collected 291 cans, and Ms. Hardy's class collected 215 cans. Write the number of cans each class collected in order from least to greatest.

We can compare the place value of the digits in these numbers to help us write them in order.

Hundreds	Tens	Ones
3	2	4
2	9	1
2	1	5

First, we look at the digits in the hundreds place. We see that 324 has 3 in the hundreds place, so we know that 324 is the greatest of the three numbers.

Hundreds	Tens	Ones
3	2	4
2	**9**	1
2	**1**	5

Next, we look at the digits in the tens place of 291 and 215. We know that 1 ten is less than 9 tens, so 215 is less than 291. We will start with 215, which is the least. The numbers in order from least to greatest are **215, 291, 324.**

Example 4

The students at Hardy Elementary keep track of how many minutes they read at home each week. The table below shows how many minutes some of the students read in one week. Write the numbers in order from greatest to least.

Minutes Read in One Week

Student	Minutes
Cindy	327
Juan	432
Mikel	321
Marissa	486

First we compare the digits in the hundreds place. We see that 432 and 486 both have 4 hundreds so we look at the tens place. Since 8 tens is more than 3 tens, 486 is greater than 432.

We see that 327 and 321 both have 3 hundreds and 2 tens. Next we compare the ones place in those two numbers. We know that 7 ones is more than 2 ones, so 327 is greater than 321. We write 486 first because it is the greatest number. The numbers in order from greatest to least are **486, 432, 327, 321.**

Justify A group of students were asked to write numbers in order from greatest to least. One student wrote the following order: 317, 392, 398. Was the student correct? Why or why not?

Lesson Practice Use the table below to answer problems **a–d.**

Minutes Read in One Week

Student	Minutes
Alana	470
Diego	473
Kita	312
Loc	486

a. Which student read the greatest number of minutes?

b. Which student read the least number of minutes?

c. Write the numbers in order from least to greatest.

d. Write the names of the students in order from greatest to least number of minutes read.

Written Practice

Distributed and Integrated

1. (18, 22) Angel spent $3.56 for lunch and $6.24 for dinner. How much did Angel spend for both lunch and dinner?

2. (20, 26) **Analyze** Willie had nine dimes and three pennies. He spent $0.43. How much money did he have left?

3. (26) **Model** Use money to show this subtraction. Then subtract using pencil and paper.

$$\$1.52 - \$1.48$$

4. (22) **Model** Use money to show this addition. Then add using pencil and paper.

$$\$3.58 + \$2.94$$

5. (15) The gas bill was $39. Round $39 to the nearest ten dollars.

6. (15) The hammock cost $69. Round $69 to the nearest ten dollars.

7. (27) **Interpret** The table below shows the temperature in four different cities one day last spring.

City	Temperature
Austin	74°F
Boston	66°F
Los Angeles	68°F
Miami	86°F

Write the temperatures in order from least to greatest.

8. (1, 2) How many days is 5 weeks?

9. (4) Draw a number line from 10 through 15 with one tick mark for each counting number. Label 10 and 15. Draw a dot on the number line at 11.

Conclude What are the next four numbers in each sequence?

10. (2) 16, 20, 24, 28, _____, _____, _____, _____, . . .

11. (2) 16, 24, 32, 40, _____, _____, _____, _____, . . .

Add or subtract, as shown:

12. (14) $52 − $48

13. (10) 8 + 5 + 10

14. (23) $796 − $790

15. (22) $4.25 + $2.50

16. (23) $786 − $76

17. (24) 58 + 76 + 30

Find the missing addend:

18. (9, 10) $m + 8 + 7 = 20$

19. (9, 13) $\square + 45 = 60$

20. (17, 25) **Analyze** Audrey has 1 quarter, 6 dimes, and 2 pennies. Kai has 2 quarters, 2 nickels, and 3 pennies. Who has more money? Write the two amounts of money with a comparison symbol.

Early Finishers

Real-World Connection

Cesar and Paul were playing a board game using play money. The player with the most money at the end of the game wins. When the game ended, Cesar had fourteen $10 bills, three $5 bills, and six $1 bills. Paul ended the game with eleven $10 bills, nine $5 bills, and eight $1 bills. How much money did each player have? Who won? How much more money does the winner have?

LESSON 28

• Subtracting Across Zeros

Power Up

facts

Power Up 28

jump start

Count up by 25s from 0 to 200.
Count up by 100s from 0 to 1000.

Draw hands on your clock to show "five minutes before ten." It is night. Write the time in digital form.

The temperature at sunrise was 50°F. It was 10 degrees warmer at sunset. Mark your thermometer to show the temperature at sunset.

Write "one hundred twenty dollars" using digits.

mental math

a. **Number Sense:** 9 + 11

b. **Number Sense:** 17 − 9

c. **Money:** Write the total value of these coins with a dollar sign.

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

95	85	75	_____	55

problem solving

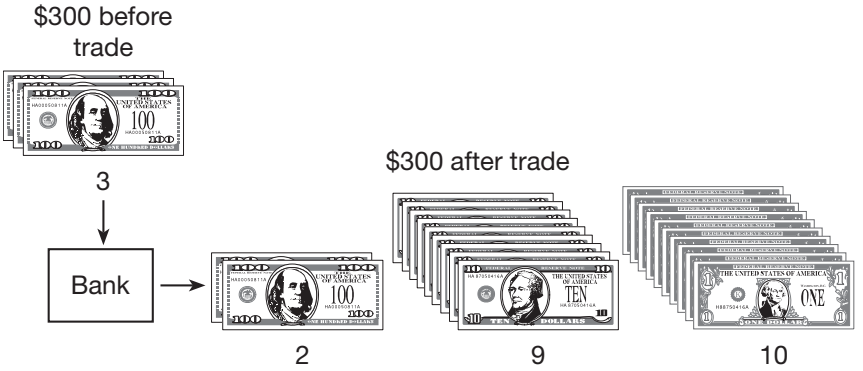
Alex, Bailey, and Chandra lined up to get on the bus. Bailey stood right in front of Alex. How many different ways could the children have lined up? Act out the problem to find the ways.

New Concept

Think about this story.

> *Simon is playing a board game. He needs to pay another player $157. Simon has three $100 bills. How can Simon trade with the bank so that he can pay the other player? How much money will Simon have after he pays?*

Simon starts with a total of $300. He needs to trade a $100 bill to the bank for $10 bills and $1 bills. Simon can trade one $100 bill for ten $10 bills. Then, he can trade one $10 bill for ten $1 bills.



Verify Write and solve a number sentence to show that two $100 bills, nine $10 bills, and ten $1 bills are equal to three $100 bills.

After Simon pays $157, we can also subtract using pencil and paper.

$$\begin{array}{r} \$300 \\ -\ \$157 \\ \hline \end{array} \longrightarrow \begin{array}{r} \$\overset{2}{\cancel{3}}\overset{1}{0}0 \\ -\ \$157 \\ \hline \end{array} \longrightarrow \begin{array}{r} \$\overset{2}{\cancel{3}}\overset{1}{\cancel{0}}\overset{9}{0} \\ -\ \$157 \\ \hline \$143 \end{array}$$

First we trade 1 hundred for 10 tens. That trade leaves 2 hundreds. Then we trade 1 ten for 10 ones. That trade leaves 9 tens. After the two trades we are ready to subtract.

Activity

Subtracting Across Zeros

Work with a partner to complete these two exchanges.

1. Student A starts with four $100 bills from the bank. Then Student A pays Student B $163 by first trading one $100 to the bank for $10 bills and $1 bills. Then both partners should subtract with pencil and paper.

$400 − $163

2. Student B starts with one $100 bill. Student B pays Student A $74 by first trading the $100 bill to the bank for $10 bills and $1 bills. Then both partners should subtract with pencil and paper.

$100 − $74

Example

The grocery bill was $127. Malia paid for the groceries with two $100 bills. How much money should she get back?

We subtract $127 from $200. First we trade 1 hundred for 10 tens. Then we trade 1 ten for 10 ones. →

$$\begin{array}{r} \$200 \\ -\ \$127 \\ \hline \end{array} \longrightarrow \begin{array}{r} \$\overset{1}{\cancel{2}}{}^{1}00 \\ -\ \$127 \\ \hline \end{array} \longrightarrow \begin{array}{r} \$\overset{1}{\cancel{2}}{}^{1}\overset{9}{\cancel{0}}{}^{1}0 \\ -\ \$127 \\ \hline \mathbf{\$\ \ 73} \end{array}$$

Malia should get back **$73.**

Lesson Practice

Use your money manipulatives to help you with each subtraction.

a. $500 − $371

b. $200 − $144

c. $200 − $ 56

d. $100 − $ 38

Written Practice *Distributed and Integrated*

1. (20, 28) Darren took $100 to the department store. He spent $89 on a breadmaker. Then how much money did he have?

2. (12) Write the total price in problem **1** using words.

3. (18, 22) **Analyze** The umbrella was on sale for $8.95. Tax was 70¢. What was the total price of the umbrella with tax?

4. (25) What is the total value of two quarters, a dime, a nickel, and three pennies?

5. (22) **Model** Use money to show this addition. Then add using pencil and paper.

$5.48 + $3.64

6. (15) Round $18 to the nearest ten dollars.

7. (15) Round $781 to the nearest hundred dollars.

8. (25) How many nickels equal a dollar?

9. (25) Marty bought some juice for 66¢. What coins might Marty have used to buy the juice?

Conclude What are the next four numbers in each sequence?

10. (2) 12, 18, 24, _____, _____, _____, _____, . . .

11. (2) 99, 90, 81, _____, _____, _____, _____, . . .

Add or subtract, as shown:

12. (16) 876 + 100

13. (23) $489 − $50

14. (24) 25 + 35 + 45

15. (23) $279 − $119

16. (10) 6 + 5 + 4 + 10

17. (19) $280 − $180

Find the missing addend:

18. (9) 25¢ + m = 75¢

19. (9) 30 = 24 + □

20. (22) **Multiple Choice** Deshawn went to the carnival with his father. The price of an adult ticket was $4.75. The price of a child's ticket was $3.25. How much did Deshawn and his father spend on tickets?

A $7.00 **B** $7.75 **C** $8.00 **D** $8.25

LESSON 29

• Fractions of a Dollar

Power Up

facts

Power Up 29

jump start

Count up by 3s from 0 to 30.
Count up by 7s from 0 to 42.

Draw hands on your clock to show "ten minutes past six." It is evening. Write the time in digital form.

The temperature at noon was 50°F. It was 10 degrees cooler at midnight. Mark your thermometer to show the temperature at midnight.

Write 135 in expanded form.

mental math

a. Number Sense: 50 + 30

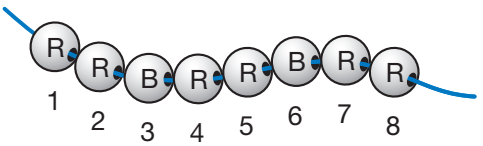
b. Money: Which has greater value, 2 dimes or 15¢?

c. Estimation: Is $47 closer to $40 or to $50?

d. Time: It is afternoon. The train will arrive 1 hour after the time shown on the clock. What time will the train arrive?

problem solving

Lydia is placing beads on a string. In this picture, R stands for red and B stands for blue. If Lydia continues the pattern of beads, what will be the color of the tenth bead?



New Concept

We can name parts of a whole with a **fraction.** The bottom number in the fraction tells the number of equal parts in the whole. The top number in the fraction tells the number of parts we are naming.

The value of a coin is a fraction of a whole dollar.

4 quarters equal $1, so

1 quarter is $\frac{1}{4}$ ("one fourth") of a dollar.

10 dimes equal $1, so

1 dime is $\frac{1}{10}$ ("one tenth") of a dollar.

20 nickels equal $1, so

1 nickel equals $\frac{1}{20}$ ("one twentieth") of a dollar.

100 pennies equal $1, so

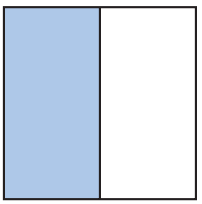
1 penny equals $\frac{1}{100}$ ("one hundredth") of a dollar.

Notice that each of these fractions has two parts. The bottom number tells how many of that coin equal one whole dollar. The top number shows how many of that coin we are naming.

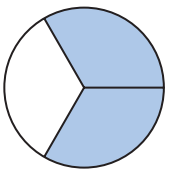
Example 1

What fraction of each shape is shaded?

a.



b.



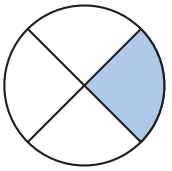
a. The square is divided into two equal parts, so the bottom number of the fraction will be 2. One part is shaded, so the top number in the fraction will be 1. The fraction is $\frac{1}{2}$.

b. The circle is divided into three equal parts, so the bottom number of the fraction will be 3. Two parts are shaded so the top number of the fraction will be 2. The fraction is $\frac{2}{3}$.

Example 2

Draw a circle and shade $\frac{1}{4}$.

First we draw a circle. Next, we divide it into four equal parts. Then we shade one of the parts.



Example 3

Tom held 3 quarters in his hand. What fraction of a dollar is 3 quarters?

A whole dollar is 4 quarters, so 3 quarters is $\frac{3}{4}$ **("three fourths") of a dollar.**

Example 4

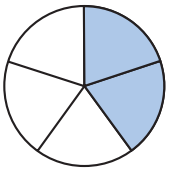
Mia has 7 dimes. What fraction of a dollar is 7 dimes?

A whole dollar is 10 dimes, so 7 dimes is $\frac{7}{10}$ **("seven tenths") of a dollar.**

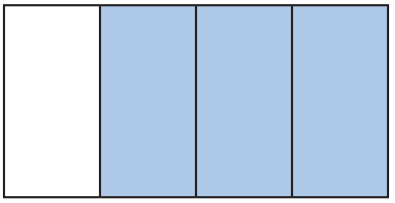
Analyze Name a fraction of a dollar that is equal to 50¢.

Lesson Practice

a. What fraction of the circle is shaded?



b. What fraction of the rectangle is shaded?



c. Which coin is $\frac{1}{4}$ of a dollar?

d. Three dimes is what fraction of a dollar?

Written Practice

Distributed and Integrated

1. (18, 22) Freddy ordered a sandwich for $4.29 and a drink for $1.29. What was the total price?

2. (20, 26) **Analyze** The item cost $4.19. Elizabeth gave the clerk a $5 bill and a quarter. How much money did Elizabeth give the clerk? How much money did she get back?

3. (12) Write "nine hundred thirty dollars" using numbers and a dollar sign.

4. (25) Sam has three quarters, two dimes, and a penny in his pocket. What is the total value of the coins?

5. (15) The price of the refrigerator was $389. Round the price to the nearest hundred dollars.

6. (15) The price of the computer game was $28. Round the price to the nearest ten dollars.

7. (17) Max earned $75 washing cars and $82 mowing lawns. For which job did Max earn more money? Write the two amounts with a comparison symbol.

8. (17) Dina saw these three prices for a television she wants to buy: $287, $293, and $279. Write the prices in order from least to greatest.

What are the next five numbers in each sequence?

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

10. (2) 4, 8, 12, _____, _____, _____, _____, _____, . . .

Add or subtract, as shown:

11. (24) 31 + 26 + 15

12. (10) 6 + 6 + 6 + 6

13. (16) $375 + $375

14. (23) $625 − $125

15. $3.45 − $1.50
(26)

16. $250 − $10
(23)

Find the missing addend:

17. $30 + m = 90$
(9)

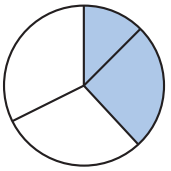
18. $37 + \square = 100$
(9. 13)

19. **Analyze** Minh spent 15 minutes eating his lunch and another 15 minutes playing on the monkey bars. What fraction of an hour did he spend eating and playing?
(5. 29)

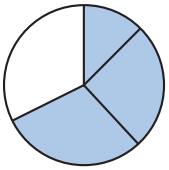
20. **Multiple Choice** Which shaded circle shows the fraction $\frac{3}{4}$?
(29)

A

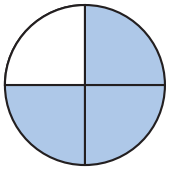
B



C



D



Early Finishers
Real-World Connection

Danielle jumps rope faster than anyone on her street. She can jump five times every four seconds. How long would it take Danielle to jump 25 times? You may wish to make a table that shows the numbers of jumps and seconds to help you find the answer.

LESSON 30

• Estimating Sums and Differences

Power Up

facts

Power Up 30

jump start

Count up by 25s from 0 to 200 and then back down to 0.

Draw hands on your clock to show "ten minutes before four." It is afternoon. Write the time in digital form.

A normal low temperature in January in Houston, Texas is 41°F. Mark your thermometer to show this temperature.

mental math

a. **Number Sense:** 18 − 10

b. **Number Sense:** 8 + 7

c. **Money:** Which has greater value, $0.46 or 48¢?

d. **Place Value:** What digit is in the tens place in the number 264?

problem solving

Focus Strategy: Use Logical Reasoning

Cheyenne has five coins that are worth 18¢ altogether. What are the coins?

Understand We are asked to find five coins worth 18¢.

Plan We can use logical reasoning to solve the problem.

Solve We cannot make 18¢ without some pennies. This is because combinations of quarters, dimes, and nickels always have values that end in 0 or 5. Eighteen cents is 3 pennies more than 15¢, so we know that Cheyenne has 3 pennies.

Now we need to find two more coins that are worth 15¢. We know that 1 dime plus 1 nickel is 15¢.

We can show our coin combination in a table.

Check Our table shows 1 dime, 1 nickel, and 3 pennies, which is a total of five coins. If we add the values, we get 18¢, so our answer fits the problem.

Coin	Number
Q	0
D	1
N	1
P	3

New Concept

We often use addition or subtraction to solve math problems. Sometimes we need to know the exact answer. Sometimes we only need to find a number that is close to the exact answer. When we only need to know *about* how much, we **estimate.**

In Lesson 15 we learned to round numbers to the nearest ten and hundred. In this lesson we will add and subtract rounded numbers to estimate sums and differences.

Example 1

At the pet store, Jonah picked out an aquarium for $52 and a turtle for $26. About how much money will Jonah need to pay for his items? Will you add or subtract to find the answer?

This is a "some and some more" story, so we will **add** to find the answer.

We are asked *about* how much money Jonah needs, so we will estimate the sum. We begin by rounding $52 and $26 to the nearest ten dollars.

$$\begin{array}{rcr} \$52 & \text{rounds to} & \$50 \\ +\ \$26 & \text{rounds to} & +\ \$30 \\ \hline & & \$80 \end{array}$$

Then we add the rounded numbers to estimate the sum: $\$50 + \$30 = \$80$. Jonah will need **about $80** to pay for his items.

Example 2

Cass had 92 balloons. She used 39 balloons to decorate for a friend's party. About how many balloons does Cass have left? Will you add or subtract to find the answer?

This is a "some went away" story, so we will **subtract** to find the answer.

We are asked *about* how many balloons Cass has left, so we will estimate the difference. We begin by rounding 92 and 39 to the nearest ten.

$$\begin{array}{rcr} 92 & \text{rounds to} & 90 \\ -\ 39 & \text{rounds to} & -\ 40 \\ \hline & & 50 \end{array}$$

Then we subtract the rounded numbers to estimate the difference: $90 - 40 = 50$. Cass has **about 50 balloons** left.

Example 3

What is the best estimate of the sum of 287 and 529?

A 700 **B** 900 **C** 800 **D** 600

We begin by rounding 287 and 529 to the nearest hundred. Then we add the rounded numbers to estimate the sum: $300 + 500 = 800$. The sum of 287 and 529 is about 800, so the correct answer choice is **C.**

Discuss Is estimating sums and differences easier or harder than finding exact numbers?

Lesson Practice

For problems **a–c,** first say whether you will add or subtract. Then find the answer.

a. Rodney's worksheet has 96 subtraction facts. After one minute he has worked 57 facts. About how many facts does he have left to work?

b. Mr. Neustadt drove 278 miles on Monday and 429 miles on Tuesday. About how many miles did he travel in all?

c. Joni wants a pair of cleats that cost $53 and a pair of kneepads that cost $18. About how much money does Joni need to pay for her items?

d. What is the best estimate of the difference of 687 and 312?

A 900 **B** 300 **C** 1000 **D** 400

Written Practice

Distributed and Integrated

1. (17, 25) **Explain** Silvia has 3 quarters and 2 dimes. She wants to buy a bagel that costs 79 cents. Does she have enough money? Explain your answer.

2. (27) For breakfast Jimmy bought cereal for 85 cents, juice for 65 cents, and toast for 45 cents. List the items in order of price from least to greatest.

3. (21, 24) **Analyze** Find the total price of the items in problem **2** and write the answer with a dollar sign.

4. (15) The new video tape costs $16. Round the price to the nearest ten dollars.

5. (15) The baseball glove costs $61. Round the price to the nearest ten dollars.

6. (12) Use words to write $849.

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

Conclude What are the next four numbers in each sequence?

8. (2) 99, 90, 81, _____, _____, _____, _____, …

9. (2) 20, 24, 28, _____, _____, _____, _____, …

Add or subtract, as shown:

10. (19) $250 − $150

11. (24) 31 + 28 + 31

12. (23) $465 − $420

13. (10) 6 + 4 + 8 + 2 y

14. $875 − $500
(19)

15. $4.35 + $2.65
(22)

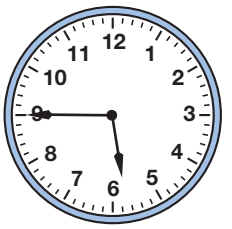
Find the missing addend:

16. $55 + m = 66$
(9)

17. $20 + 30 + \square = 100$
(9, 10)

18. There are 163 third graders and 117 fourth graders at Vargas Elementary School. About how many third and fourth graders are there?
(30)

19. As the sun began to set, Stella glanced at the clock. What time was it?
(3)



20. Write 875 in expanded form.
(11)

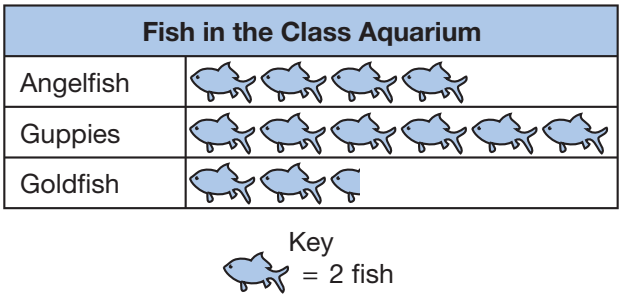
Early Finishers
Real-World Connection

It takes Roseanna 50 minutes to get ready for school. If the bus comes at 7:00 a.m., about what time should she get up? Her sister rides the same bus but it only takes her 20 minutes to get ready. What time should Roseanna's sister get up in the morning?

Focus on

• More About Pictographs

Recall from Investigation 1 that a pictograph uses pictures to show data.



The title at the top tells what the graph is about. Labels along the side tell what is counted. The pictures tell us how many of each type there are. The key tells us how many each picture represents.

Look at the pictograph above to answer problems **1–6.**

1. What is the title of the pictograph?
2. How many guppies are in the class aquarium?
3. Read the key. How many fish does each picture represent?
4. **Interpret** How many fish does the last picture in the "goldfish" row represent? How many goldfish are in the class aquarium?
5. Are there more goldfish or more angelfish in the aquarium?
6. If the teacher removed 2 angelfish from the class aquarium, how many angelfish would be left?

We can make pictographs from data we are given or from data we collect. In this investigation we will work as a class to collect data. Then we will organize our data and display it using a pictograph.

Activity

Class Pictograph

Materials: **Lesson Activity 14**

Our pictograph will show how many students in the class were born in each season. There are four seasons in a year: fall, winter, spring, and summer. In most years, the seasons begin and end on these dates:

Fall:	September 23 to December 20
Winter:	December 21 to March 19
Spring:	March 20 to June 20
Summer:	June 21 to September 22

Go around the class one student at a time saying aloud the season in which you were born. After each student's turn, make a tally mark at the top of **Lesson Activity 14** next to the season named. Here is a sample tally:

Fall:	𝍸 ||
Winter:	||||
Spring:	𝍸 |
Summer:	𝍸

After each student has had a turn, answer problems **7–13** to plan your pictograph. Use the tally you made on **Lesson Activity 14** to help you plan.

7. What will you title your pictograph? Write your title in the correct place on your worksheet.

8. Choose a picture to use in your pictograph. Draw the picture in the key on your worksheet.

9. As a class, decide whether each picture on your pictographs will represent one, two, or more students. Record your answer in the correct place for the key on your worksheet.

10. How many pictures will you need to represent the students with fall birthdays?

11. How many pictures will you need to represent the students with winter birthdays?

12. How many pictures will you need to represent the students with spring birthdays?

13. How many pictures will you need to represent the students with summer birthdays?

Use your answers to problems **8–13** to fill in the pictograph on **Lesson Activity 14.**

Investigate Further

a. Olivia enjoys watching birds at summer camp. One week she counted 4 blue jays. The next week she counted 7 blue jays. The third week she counted 6 blue jays. Make a pictograph to display this data. Begin by choosing a title and making a key for your pictograph.

b. Collect data about your classmates or objects in your classroom and make a pictograph to display your data. Here are some sample subjects you might use:

- hair colors of students
- colors of students' shirts
- favorite foods of students
- favorite sports of students