

# 7

## Round and Estimate Numbers

- Do you like to take photos?
- When might a photographer use an exact number? an estimate? Why is it important to round and estimate numbers?

### Chapter Learning Target:

Understand estimation.

### Chapter Success Criteria:

- I can identify the values of different numbers.
- I can explain how to round numbers.
- I can round numbers.
- I can estimate the difference between numbers.



# 7

Name \_\_\_\_\_

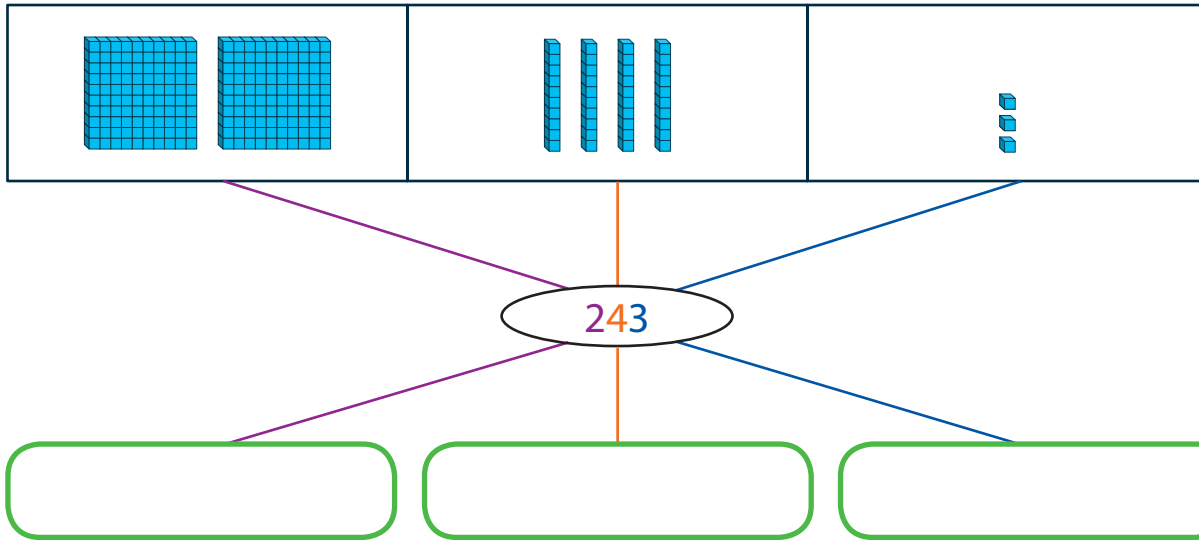
## Vocabulary

### Review Words

hundreds place  
ones place  
tens place

### Organize It

Use the review words to complete the graphic organizer.



### Define It

Use your vocabulary cards to identify the word. Find the word in the word search.

- The value of the place of a digit in a number
- A number that is close to an exact number
- To replace a number with the nearest multiple of ten or hundred

C	Z	P	D	E	Z	V	X	S	C
R	A	E	I	S	R	T	Q	U	D
H	K	B	E	T	U	O	J	M	E
O	Y	W	U	I	S	D	U	T	P
I	C	O	E	M	S	T	I	N	M
T	E	V	A	A	L	U	Y	R	D
K	R	T	U	T	W	Q	U	E	Z
P	L	A	C	E	V	A	L	U	E

# Chapter 7 Vocabulary Cards

**compatible  
numbers**

**estimate**

**place value**

**round**

A number that is close to an exact number

$$18 + 69 = ?$$

Exact Sum: 87

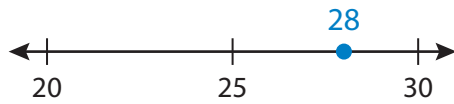
Estimate: 90



Numbers that are easy to add or subtract mentally and are close to the actual numbers

$$\begin{array}{r}
 147 \quad \rightarrow \quad 150 \\
 + 199 \quad \rightarrow \quad + 200 \\
 \hline
 \end{array}$$

To replace a number with the nearest multiple of ten or hundred



28 **rounded** to the nearest ten is 30.

The value of the place of a digit in a number

231

The digit 2 has a place value of 100 because it is in the hundreds place.

**Learning Target:** Identify the values of digits in three-digit numbers.

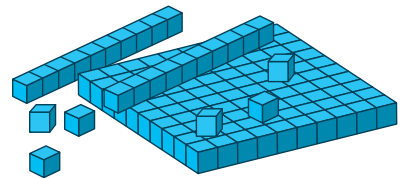
**Success Criteria:**

- I can model three-digit numbers.
- I can identify the values of digits in three-digit numbers.
- I can use place value to compare two numbers.



## Explore and Grow

Model each number. Write each number in expanded form.



130

310

103



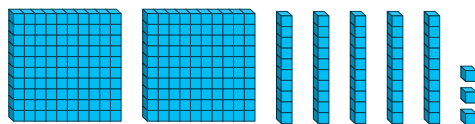
**Reasoning** Which number is the greatest? How do you know?



# Think and Grow: Place Value

Find the value of the underlined digit.

**Example** 253



The digit 5 has a **place value** of 10 because it is in the tens place.

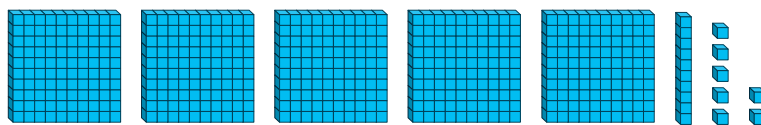


Hundreds	Tens	Ones
_____	_____	_____

Expanded form: 200 + 50 + 3

The digit 5 has a value of \_\_\_\_\_ tens, or \_\_\_\_\_.

**Example** 517



Hundreds	Tens	Ones
_____	_____	_____

Expanded form: \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_

The digit 5 has a value of \_\_\_\_\_, or \_\_\_\_\_.

## Show and Grow

Circle the value of the underlined digit.

- |                 |     |    |     |
|-----------------|-----|----|-----|
| 1. 10 <u>9</u>  | 9   | 90 | 900 |
| 2. <u>4</u> 82  | 400 | 40 | 4   |
| 3. 3 <u>6</u> 6 | 6   | 60 | 600 |

Name \_\_\_\_\_



## Apply and Grow: Practice

Circle the value of the underlined digit.

4. <u>8</u> 48	80	8	800
5. 6 <u>3</u> 4	4	400	40
6. 9 <u>7</u> 1	700	70	7
7. 41 <u>3</u>	3	300	30

Write the value of the underlined digit.

8. 152

9. 725

10. 207

Identify the value of each digit.

11.  $\begin{array}{c} 386 \\ \swarrow \quad \downarrow \quad \searrow \\ \underline{\quad} \quad \underline{\quad} \quad \underline{\quad} \end{array}$

12.  $\begin{array}{c} 569 \\ \swarrow \quad \downarrow \quad \searrow \\ \underline{\quad} \quad \underline{\quad} \quad \underline{\quad} \end{array}$

13. **MP Reasoning** Use each number card once to write the greatest three-digit number. Then use each number card once to write the least three-digit number.

5

8

2

Greatest: \_\_\_\_\_

Least: \_\_\_\_\_



## Think and Grow: Modeling Real Life

Newton spends two hundred two dollars at the grocery store. Descartes spends \$220. Who spends more money?

Make quick sketches:



Compare: \_\_\_\_\_ ○ \_\_\_\_\_

\_\_\_\_\_ spends more money.

## Show and Grow

14. Newton spends one hundred forty-two dollars at the pet store. Descartes spends \$124. Who spends more money?

15. **DIG DEEPER!** Order the weights of the zoo animals from least to greatest. Which animal weighs the least? Which animal weighs the most?

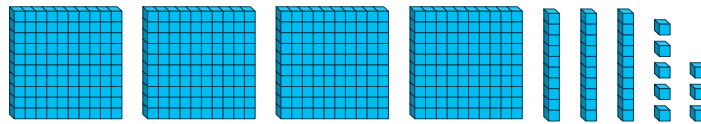
Weights of Zoo Animals	
Animal	Weight (pounds)
Tiger	440
Zebra	474
Lion	404
Black bear	444



**Learning Target:** Identify the values of digits in three-digit numbers.

Find the value of the underlined digit.

**Example** 438



Hundreds	Tens	Ones
<u>4</u>	<u>3</u>	<u>8</u>

Expanded form: 400 + 30 + 8

The digit 8 has a value of 8 ones, or 8.

Circle the value of the underlined digit.

- |                |     |     |     |
|----------------|-----|-----|-----|
| 1. <u>3</u> 25 | 200 | 2   | 20  |
| 2. 54 <u>1</u> | 1   | 10  | 100 |
| 3. <u>6</u> 53 | 60  | 600 | 6   |
| 4. 19 <u>4</u> | 4   | 40  | 400 |

Write the value of the underlined digit.

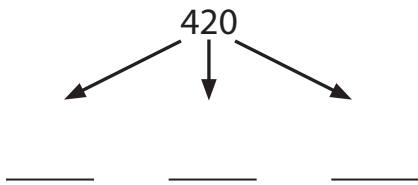
5. 736

6. 962

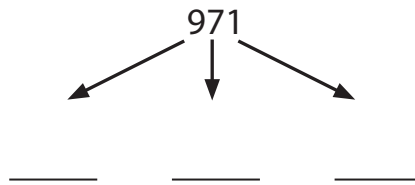
7. 897

Identify the value of each digit.

8.



9.



10. **DIG DEEPER!** Descartes is thinking of a number. What is his number?

The three digits of my number are 2, 7, and 5.

My number is even.

My number is less than 750.



11. **Modeling Real Life** A skating rink gives out three hundred thirty glow sticks on Friday and 303 glow sticks on Saturday. On which day does the skating rink give out more glow sticks?

12. **DIG DEEPER!** Order the basketball field goals made in a season of the basketball players from least to greatest. Which player made the least number of field goals? Which made the most number of field goals?

Field Goals Made in a Season	
Player	Field Goals
A	366
B	326
C	394
D	306

### Review & Refresh

Complete the related facts.

13.  $9 \div 3 = \underline{\quad}$

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

14.  $40 \div 8 = \underline{\quad}$

$8 \times \underline{\quad} = 40$

15.  $63 \div 7 = \underline{\quad}$

$7 \times \underline{\quad} = 63$

**Learning Target:** Use a number line to round numbers to the nearest ten or nearest hundred.

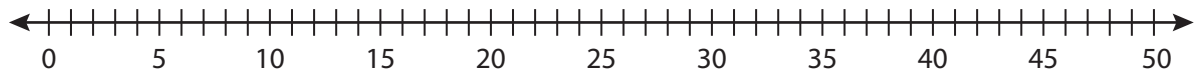
**Success Criteria:**

- I can identify the two tens a number is between and which ten it is closer to.
- I can identify the two hundreds a number is between and which hundred it is closer to.
- I can round a number to the nearest ten or nearest hundred.



## Explore and Grow

Plot 32 on the number line. Circle the two closest multiples of ten.



Which multiple of ten is 32 closer to?



**Repeated Reasoning** Which multiple of ten is closer to 38? 31? 36? How did you decide? Explain.

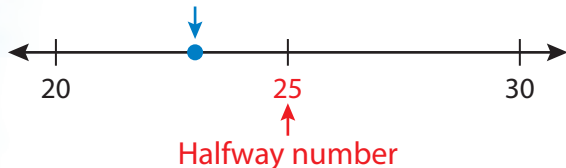


# Think and Grow: Round Numbers Using Number Lines

To **round** a number to the nearest ten, replace the number with its nearest multiple of ten. When a number is halfway between two multiples of ten, use the greater number.

**Example** Round 23 to the nearest ten.

Plot 23 on a number line.

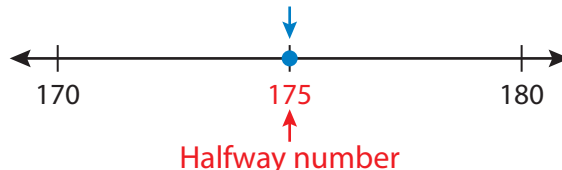


23 is between 20 and 30.

23 is closer to \_\_\_\_\_ than it is to \_\_\_\_\_. So, 23 rounded to the nearest ten is \_\_\_\_\_.

**Example** Round 175 to the nearest ten.

Plot 175 on a number line.

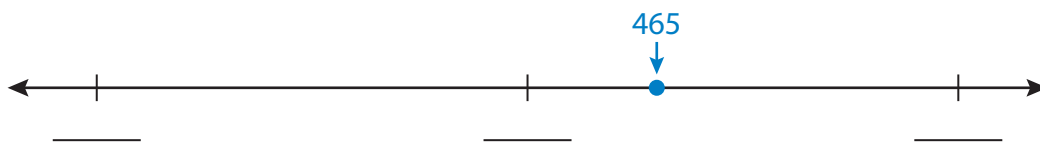


175 is **halfway** between 170 and 180.

So, 175 rounded to the nearest ten is \_\_\_\_\_.

You can round a number to the nearest hundred in a similar way.

**Example** Round 465 to the nearest hundred.

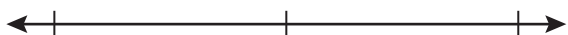


465 is closer to \_\_\_\_\_ than it is to \_\_\_\_\_.

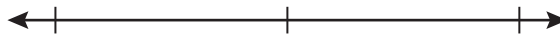
So, 465 rounded to the nearest hundred is \_\_\_\_\_.

## Show and Grow

1. Round 59 to the nearest ten. \_\_\_\_\_



2. Round 350 to the nearest hundred. \_\_\_\_\_



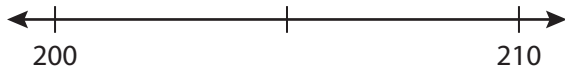
Name \_\_\_\_\_



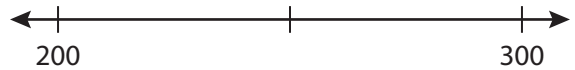
## Apply and Grow: Practice

Round the number to the nearest ten and to the nearest hundred.

3. 203

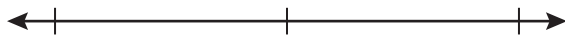


Nearest ten: \_\_\_\_\_

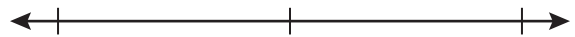


Nearest hundred: \_\_\_\_\_

4. 75



Nearest ten: \_\_\_\_\_



Nearest hundred: \_\_\_\_\_

5. 961

Nearest ten: \_\_\_\_\_

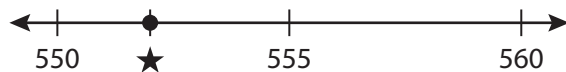
Nearest hundred: \_\_\_\_\_

6. 47

Nearest ten: \_\_\_\_\_

Nearest hundred: \_\_\_\_\_

7. **DIG DEEPER!** Round ★ to the nearest ten and to the nearest hundred.



Nearest ten: \_\_\_\_\_

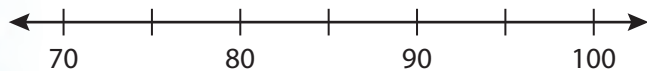
Nearest hundred: \_\_\_\_\_



## Think and Grow: Modeling Real Life

On which days does the school collect about 90 food items?

Model:



The school collects about 90 food items on \_\_\_\_\_ and \_\_\_\_\_.

Food Drive	
Day	Items Collected
Monday	88
Tuesday	67
Wednesday	77
Thursday	94
Friday	75

## Show and Grow

8. Use the table above to find on which days the school collects about 80 food items.

9. Your teacher wants you to read a book with about 200 pages. Circle the books you can read. Explain.



196 pages



97 pages



272 pages



238 pages

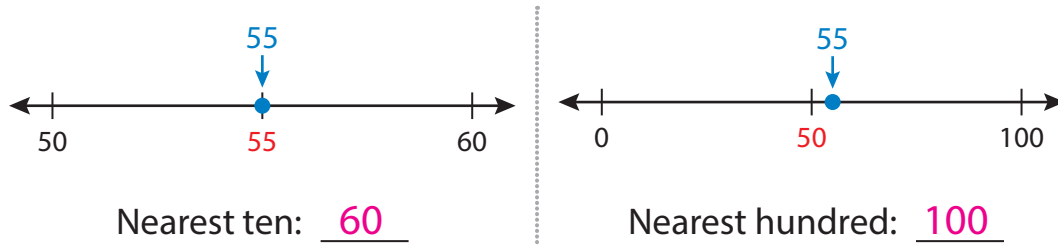


129 pages

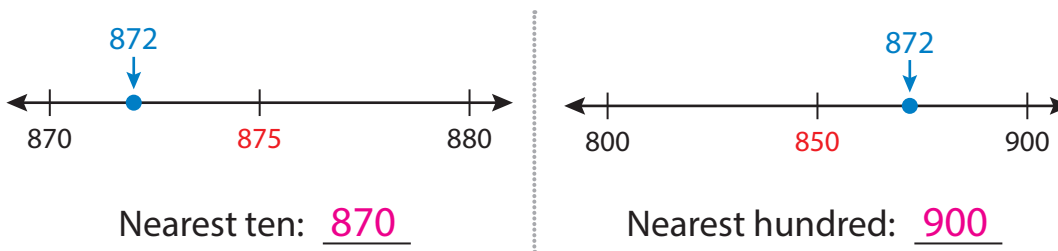
10. **DIG DEEPER!** There are 9 rows and 9 columns of soup cans on a shelf. Round the number of soup cans in all to the nearest ten and to the nearest hundred.

**Learning Target:** Use a number line to round numbers to the nearest ten or nearest hundred.

**Example** Round 55 to the nearest ten and to the nearest hundred.

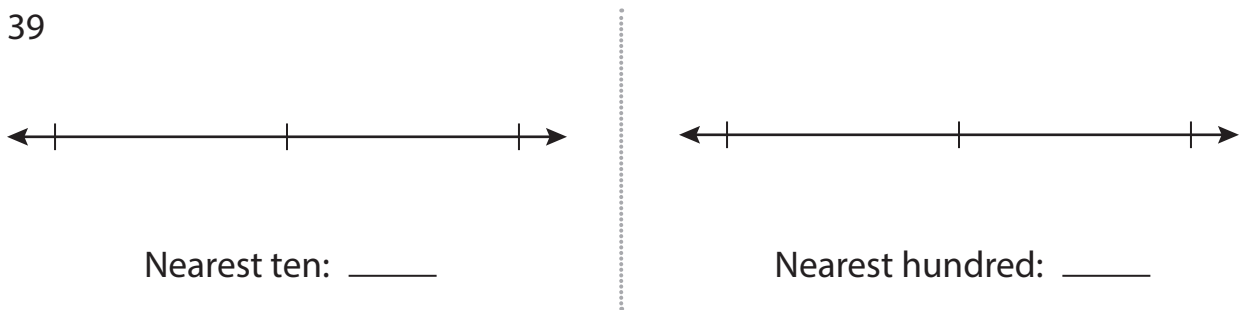


**Example** Round 872 to the nearest ten and to the nearest hundred.

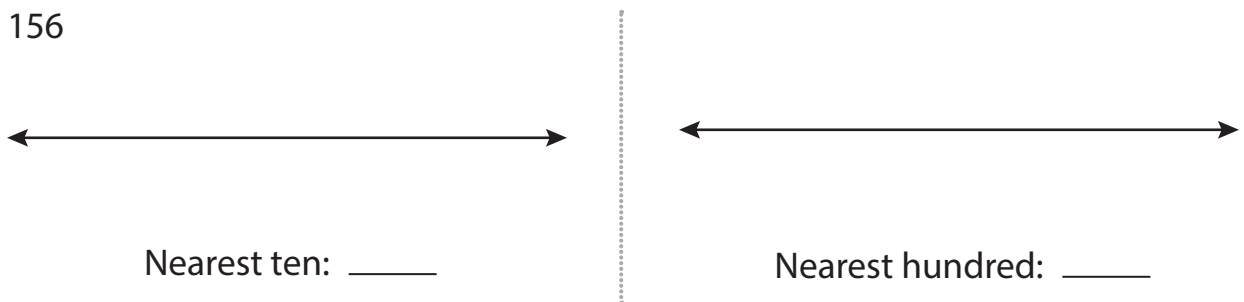


Round the number to the nearest ten and to the nearest hundred.

1. 39



2. 156



Round the number to the nearest ten and to the nearest hundred.

3. 402

Nearest ten: \_\_\_\_\_

Nearest hundred: \_\_\_\_\_

4. 627

Nearest ten: \_\_\_\_\_

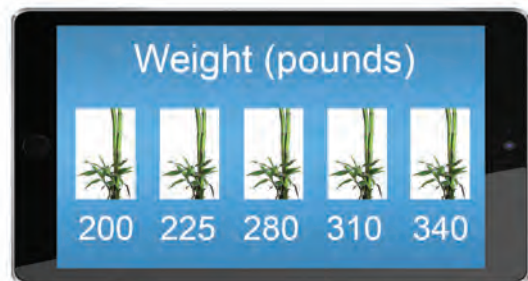
Nearest hundred: \_\_\_\_\_

5. **Writing** Explain how to use a number line to round 24 to the nearest ten.

6. **Modeling Real Life** Your class is painting stones for a garden mosaic. On which days does your class paint about 30 stones?

Garden Painting	
Day	Stones Painted
Monday	31
Tuesday	22
Wednesday	27
Thursday	35
Friday	38

7. **Modeling Real Life** A giant panda eats about 300 pounds of bamboo every week. Which weights of bamboo can a zookeeper buy to feed a giant panda for a week?



### Review & Refresh

Tell whether the product is *even* or *odd*.

8.  $3 \times 5$  \_\_\_\_\_ | 9.  $10 \times 8$  \_\_\_\_\_ | 10.  $7 \times 2$  \_\_\_\_\_



**Learning Target:** Use place value to round numbers to the nearest ten or nearest hundred.

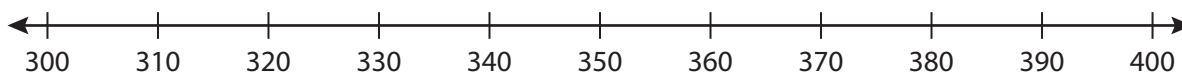
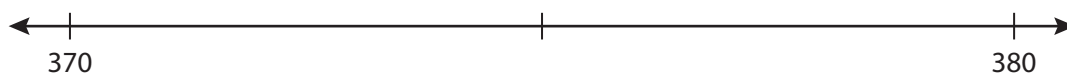
**Success Criteria:**

- I can explain which digit I use to round and why.
- I can identify which ten or hundred is closest to a number.
- I can round a number to the nearest ten or nearest hundred.



## Explore and Grow

Plot 376 on each number line. Round the number to the nearest ten and to the nearest hundred.



Nearest ten: \_\_\_\_\_

Nearest hundred: \_\_\_\_\_



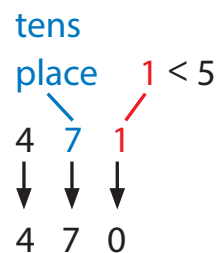
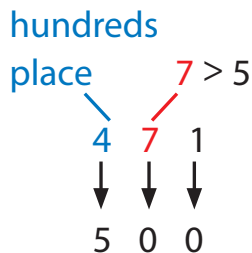
**Reasoning** How can you round the number without using the number line?



# Think and Grow: Round Numbers Using Place Value

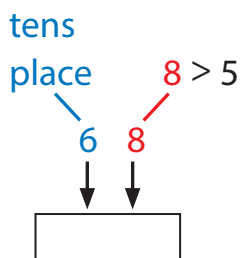
## Use Place Value to Round Numbers

- Find the place to which you are rounding.
- Look at the digit to the right. If it is less than 5, then the digit in the place you are rounding stays the same. If it is 5 or greater, then the digit in the place you are rounding increases by 1.
- Write zeros for the digits to the right of the place you are rounding.



**Example** Round 68 to the nearest ten.

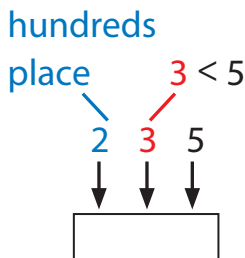
### Nearest Ten



68 rounded to the nearest ten is \_\_\_\_\_.

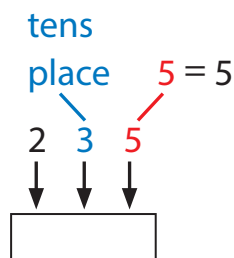
**Example** Round 235 to the nearest hundred and to the nearest ten.

### Nearest Hundred



235 rounded to the nearest hundred is \_\_\_\_\_. 235 rounded to the nearest ten is \_\_\_\_\_.

### Nearest Ten



## Show and Grow

Round the number to the nearest ten.

- |             |             |              |
|-------------|-------------|--------------|
| 1. 41 _____ | 2. 85 _____ | 3. 153 _____ |
|-------------|-------------|--------------|

Round the number to the nearest hundred.

- |              |              |             |
|--------------|--------------|-------------|
| 4. 749 _____ | 5. 372 _____ | 6. 94 _____ |
|--------------|--------------|-------------|

Name \_\_\_\_\_



## Apply and Grow: Practice

Round the number to the nearest ten.

7. 17 \_\_\_\_\_

8. 52 \_\_\_\_\_

9. 79 \_\_\_\_\_

10. 673 \_\_\_\_\_

11. 521 \_\_\_\_\_

12. 208 \_\_\_\_\_

Round the number to the nearest hundred.

13. 161 \_\_\_\_\_

14. 738 \_\_\_\_\_

15. 504 \_\_\_\_\_

16. 50 \_\_\_\_\_

17. 22 \_\_\_\_\_

18. 999 \_\_\_\_\_

Round the number to the nearest ten and to the nearest hundred.

19. 836

20. 945

21. 72

Nearest ten: \_\_\_\_\_

Nearest ten: \_\_\_\_\_

Nearest ten: \_\_\_\_\_

Nearest hundred: \_\_\_\_\_

Nearest hundred: \_\_\_\_\_

Nearest hundred: \_\_\_\_\_

22. **Number Sense** Newton rounds 587 to 590. To what place does he round?

23. **Number Sense** Which numbers round to 400 when rounded to the nearest hundred?

356

482

437

319



## Think and Grow: Modeling Real Life

On which day do about 800 people attend the concert? Explain.

About 800 people attend the concert

on \_\_\_\_\_.

Explain:

People at a Concert	
Day	Number of People
Wednesday	866
Thursday	829
Friday	952
Saturday	935
Sunday	942

## Show and Grow

24. Use the table above to find on which days about 940 people attend the concert. Explain.

### DIG DEEPER!

Round the time to the nearest ten minutes.

25.



\_\_\_\_\_

26.



\_\_\_\_\_

27. Explain how using place value to round is similar to using a number line to round.

**Learning Target:** Use place value to round numbers to the nearest ten or nearest hundred.

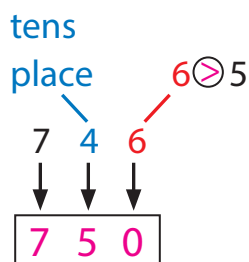
### Use Place Value to Round Numbers

- Find the place to which you are rounding.
- Look at the digit to the right. If it is less than 5, then the digit in the place you are rounding stays the same. If it is 5 or greater, then the digit in the place you are rounding increases by 1.
- Write zeros for the digits to the right of the place you are rounding.

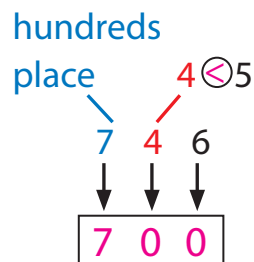


**Example** Round 746 to the nearest ten and to the nearest hundred.

#### Nearest Ten



#### Nearest Hundred



Remember: you can use place value to round a two-digit number, too!



Round the number to the nearest ten.

1. 29 \_\_\_\_\_

2. 564 \_\_\_\_\_

3. 843 \_\_\_\_\_

Round the number to the nearest hundred.

4. 281 \_\_\_\_\_

5. 36 \_\_\_\_\_

6. 975 \_\_\_\_\_

Round the number to the nearest ten and to the nearest hundred.

7. 152

Nearest ten: \_\_\_\_\_

Nearest hundred: \_\_\_\_\_

8. 308

Nearest ten: \_\_\_\_\_

Nearest hundred: \_\_\_\_\_

9. 45

Nearest ten: \_\_\_\_\_

Nearest hundred: \_\_\_\_\_

10. **DIG DEEPER!** What is the least number that rounds to 20 when rounded to the nearest ten? What is the greatest number?

Least: \_\_\_\_\_

Greatest: \_\_\_\_\_

11. **MP Number Sense** A three-digit number has the digits 3, 5, and 6. It rounds to 700 when rounded to the nearest hundred. What is the number? Explain.

12. **YOU BE THE TEACHER** Descartes says that a number rounded to the nearest ten can be greater than the same number rounded to the nearest hundred. Is Descartes correct? Explain.

13. **Modeling Real Life** On which months are there about 450 people at the basketball courts? Explain.

People at the Basketball Courts	
Month	Number of People
May	429
June	445
July	502
August	453
September	414

**DIG DEEPER!** Round the time to the nearest ten minutes.

14.



\_\_\_\_\_

15.



\_\_\_\_\_

### Review & Refresh

Find the product.

16. 
$$\begin{array}{r} 9 \\ \times 0 \\ \hline \end{array}$$

17. 
$$\begin{array}{r} 10 \\ \times 9 \\ \hline \end{array}$$

18. 
$$\begin{array}{r} 9 \\ \times 3 \\ \hline \end{array}$$

19. 
$$\begin{array}{r} 6 \\ \times 9 \\ \hline \end{array}$$

**Learning Target:** Use rounding or compatible numbers to estimate sums.

**Success Criteria:**

- I can use rounding to estimate a sum.
- I can use compatible numbers to estimate a sum.
- I can explain different ways to estimate a sum.



## Explore and Grow

Round each addend. Then find the sum.

$$\begin{array}{r}
 83 \longrightarrow \boxed{\phantom{00}} \\
 + 119 \longrightarrow + \boxed{\phantom{00}} \\
 \hline
 \phantom{+} \phantom{119} \longrightarrow + \boxed{\phantom{00}} \\
 \phantom{+} \phantom{119} \longrightarrow \phantom{+} \boxed{\phantom{00}}
 \end{array}$$

$$\begin{array}{r}
 156 \longrightarrow \boxed{\phantom{00}} \\
 + 103 \longrightarrow + \boxed{\phantom{00}} \\
 \hline
 \phantom{+} \phantom{103} \longrightarrow + \boxed{\phantom{00}} \\
 \phantom{+} \phantom{103} \longrightarrow \phantom{+} \boxed{\phantom{00}}
 \end{array}$$



**Construct Arguments** Compare your answers to your partner's answers. Explain why they are the same or why they are different.



## Think and Grow: Estimate Sums

An **estimate** is a number that is close to an exact number. You can estimate a sum by rounding or by using compatible numbers. **Compatible numbers** are numbers that are easy to add mentally and are close to the actual numbers.

**Example** Estimate  $258 + 631$ .

**One Way:** Use rounding. Round each addend to the nearest hundred. Then find the sum of the rounded numbers.

$$\begin{array}{r}
 258 \longrightarrow \boxed{\phantom{000}} \\
 + 631 \longrightarrow + \boxed{\phantom{000}} \\
 \hline
 \phantom{+} \phantom{631} \longrightarrow \phantom{+} \boxed{\phantom{000}}
 \end{array}$$

So,  $258 + 631$  is about \_\_\_\_\_.

**Another Way:** Use compatible numbers.

$$\begin{array}{r}
 258 \longrightarrow \phantom{+} 250 \\
 + 631 \longrightarrow + \phantom{+} 625 \\
 \hline
 \phantom{+} \phantom{631} \longrightarrow \phantom{+} \phantom{625} \phantom{+} \boxed{\phantom{000}}
 \end{array}$$

So,  $258 + 631$  is about \_\_\_\_\_.

## Show and Grow

1. Round to the nearest ten to estimate the sum.

$$\begin{array}{r}
 38 \longrightarrow \boxed{\phantom{00}} \\
 + 45 \longrightarrow + \boxed{\phantom{00}} \\
 \hline
 \phantom{+} \phantom{45} \longrightarrow \phantom{+} \boxed{\phantom{00}}
 \end{array}$$

2. Round to the nearest hundred to estimate the sum.

$$\begin{array}{r}
 407 \longrightarrow \boxed{\phantom{000}} \\
 + 189 \longrightarrow + \boxed{\phantom{000}} \\
 \hline
 \phantom{+} \phantom{189} \longrightarrow \phantom{+} \boxed{\phantom{000}}
 \end{array}$$

Use compatible numbers to estimate the sum.

3.

$$\begin{array}{r}
 71 \longrightarrow \boxed{\phantom{00}} \\
 + 22 \longrightarrow + \boxed{\phantom{00}} \\
 \hline
 \phantom{+} \phantom{22} \longrightarrow \phantom{+} \boxed{\phantom{00}}
 \end{array}$$

4.

$$\begin{array}{r}
 353 \longrightarrow \boxed{\phantom{000}} \\
 + 142 \longrightarrow + \boxed{\phantom{000}} \\
 \hline
 \phantom{+} \phantom{142} \longrightarrow \phantom{+} \boxed{\phantom{000}}
 \end{array}$$



**Apply and Grow: Practice**

Round to the nearest ten to estimate the sum.

$$\begin{array}{r} 5. \quad 214 \\ + 357 \\ \hline \end{array} \quad \begin{array}{r} \square \\ + \square \\ \hline \square \end{array}$$

$$\begin{array}{r} 6. \quad 465 \\ + 23 \\ \hline \end{array} \quad \begin{array}{r} \square \\ + \square \\ \hline \square \end{array}$$

$$\begin{array}{r} 7. \quad 532 \\ + 241 \\ \hline \end{array} \quad \begin{array}{r} \square \\ + \square \\ \hline \square \end{array}$$

Round to the nearest hundred to estimate the sum.

$$\begin{array}{r} 8. \quad 62 \\ + 75 \\ \hline \end{array} \quad \begin{array}{r} \square \\ + \square \\ \hline \square \end{array}$$

$$\begin{array}{r} 9. \quad 304 \\ + 381 \\ \hline \end{array} \quad \begin{array}{r} \square \\ + \square \\ \hline \square \end{array}$$

$$\begin{array}{r} 10. \quad 897 \\ + 126 \\ \hline \end{array} \quad \begin{array}{r} \square \\ + \square \\ \hline \square \end{array}$$

Use compatible numbers to estimate the sum.

$$\begin{array}{r} 11. \quad 222 \\ + 678 \\ \hline \end{array} \quad \begin{array}{r} \square \\ + \square \\ \hline \square \end{array}$$

$$\begin{array}{r} 12. \quad 491 \\ + 407 \\ \hline \end{array} \quad \begin{array}{r} \square \\ + \square \\ \hline \square \end{array}$$

$$\begin{array}{r} 13. \quad 347 \\ + 52 \\ \hline \end{array} \quad \begin{array}{r} \square \\ + \square \\ \hline \square \end{array}$$

Estimate the sum.

$$14. \quad 326 + 472$$

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

$$15. \quad 205 + 101$$

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

$$16. \quad 58 + 24$$

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

17.  **Structure** Estimate the sum of  $324 + 277$  two different ways.



## Think and Grow: Modeling Real Life

An airplane flies from Cleveland to Saint Louis. Then it flies from Saint Louis to Chicago. About how many miles does the airplane fly in all?

Understand the problem:

Make a plan:

Solve:



The airplane flies about \_\_\_\_\_ miles in all.

## Show and Grow

**18.** Use the map above. An airplane flies from Dallas to Saint Louis, and then flies from Saint Louis to Nashville. About how many miles does the airplane fly in all?

**19.** There are 178 third-grade students, 239 fourth-grade students, and 309 fifth-grade students at a museum. About how many students are at the museum? Explain.

Is there another way you can estimate to solve the problem? Explain.

**Learning Target:** Use rounding or compatible numbers to estimate sums.

**Example** Estimate  $641 + 153$ .

**One Way:** Use rounding. Round each addend to the nearest ten. Then find the sum of the rounded numbers.

$$\begin{array}{r} 641 \longrightarrow \boxed{640} \\ + 153 \longrightarrow + \boxed{150} \\ \hline \boxed{790} \end{array}$$

So,  $641 + 153$  is about 790.

**Another Way:** Use compatible numbers.

$$\begin{array}{r} 641 \longrightarrow \boxed{650} \\ + 153 \longrightarrow + \boxed{150} \\ \hline \boxed{800} \end{array}$$

So,  $641 + 153$  is about 800.



Round to the nearest ten to estimate the sum.

1.  $\begin{array}{r} 239 \quad \boxed{\phantom{00}} \\ + 417 \quad + \boxed{\phantom{00}} \\ \hline \boxed{\phantom{000}} \end{array}$

2.  $\begin{array}{r} 351 \quad \boxed{\phantom{00}} \\ + 164 \quad + \boxed{\phantom{00}} \\ \hline \boxed{\phantom{000}} \end{array}$

3.  $\begin{array}{r} 55 \quad \boxed{\phantom{00}} \\ + 43 \quad + \boxed{\phantom{00}} \\ \hline \boxed{\phantom{000}} \end{array}$

Round to the nearest hundred to estimate the sum.

4.  $\begin{array}{r} 523 \quad \boxed{\phantom{000}} \\ + 376 \quad + \boxed{\phantom{000}} \\ \hline \boxed{\phantom{0000}} \end{array}$

5.  $\begin{array}{r} 648 \quad \boxed{\phantom{000}} \\ + 21 \quad + \boxed{\phantom{000}} \\ \hline \boxed{\phantom{0000}} \end{array}$

6.  $\begin{array}{r} 762 \quad \boxed{\phantom{000}} \\ + 235 \quad + \boxed{\phantom{000}} \\ \hline \boxed{\phantom{0000}} \end{array}$

Use compatible numbers to estimate the sum.

7.  $\begin{array}{r} 26 \quad \boxed{\phantom{00}} \\ + 51 \quad + \boxed{\phantom{00}} \\ \hline \boxed{\phantom{000}} \end{array}$

8.  $\begin{array}{r} 454 \quad \boxed{\phantom{000}} \\ + 448 \quad + \boxed{\phantom{000}} \\ \hline \boxed{\phantom{0000}} \end{array}$

9.  $\begin{array}{r} 177 \quad \boxed{\phantom{000}} \\ + 522 \quad + \boxed{\phantom{000}} \\ \hline \boxed{\phantom{0000}} \end{array}$

Estimate the sum.

10.  $621 + 314$

\_\_\_ + \_\_\_ = \_\_\_

11.  $105 + 82$

\_\_\_ + \_\_\_ = \_\_\_

12.  $228 + 276$

\_\_\_ + \_\_\_ = \_\_\_

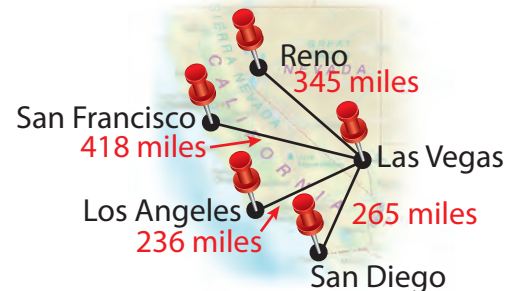
13. **DIG DEEPER!** Will Newton's estimated sum be greater than or less than the actual sum? Explain.

486	500
+ 379	400



14. **MP Logic** Newton has \$25. Descartes has \$32. Do they have more than \$50 in all? Use estimates to explain.

15. **Modeling Real Life** An airplane flies from San Francisco to Las Vegas, and then flies from Las Vegas to Los Angeles. About how many miles does the airplane fly in all?



16. **Modeling Real Life** A beach hut owner sells 118 towels, 121 surfboards, and 162 bathing suits. About how many items does the owner sell? Explain.

### Review & Refresh

Compare.

17.  $24 \div 8$  ○  $36 \div 9$  | 18.  $40 \div 8$  ○  $45 \div 9$  | 19.  $48 \div 8$  ○  $27 \div 9$

**Learning Target:** Use rounding or compatible numbers to estimate differences.

**Success Criteria:**

- I can use rounding to estimate a difference.
- I can use compatible numbers to estimate a difference.
- I can explain different ways to estimate a difference.



## Explore and Grow

Estimate each difference.

$$\begin{array}{r}
 175 \longrightarrow \boxed{\phantom{000}} \\
 - 63 \longrightarrow - \boxed{\phantom{000}} \\
 \hline
 \phantom{000} \longrightarrow \boxed{\phantom{000}}
 \end{array}$$

$$\begin{array}{r}
 263 \longrightarrow \boxed{\phantom{000}} \\
 - 197 \longrightarrow - \boxed{\phantom{000}} \\
 \hline
 \phantom{000} \longrightarrow \boxed{\phantom{000}}
 \end{array}$$



**Construct Arguments** Compare your answers to your partner's answers. Explain why they are the same or why they are different.



## Think and Grow: Estimate Differences

You can estimate a difference by rounding or by using compatible numbers.

**Example** Estimate  $673 - 429$ .

**One Way:** Use rounding. Round each number to the nearest ten. Then find the difference of the rounded numbers.

$$\begin{array}{r}
 673 \longrightarrow \boxed{\phantom{000}} \\
 - 429 \longrightarrow - \boxed{\phantom{000}} \\
 \hline
 \hline
 \boxed{\phantom{000}}
 \end{array}$$

So,  $673 - 429$  is about \_\_\_\_\_.

**Another Way:** Use compatible numbers.

$$\begin{array}{r}
 673 \longrightarrow \boxed{\phantom{000}} \\
 - 429 \longrightarrow - \boxed{\phantom{000}} \\
 \hline
 \hline
 \boxed{\phantom{000}}
 \end{array}$$

So,  $673 - 429$  is about \_\_\_\_\_.

## Show and Grow

1. Round to the nearest ten to estimate the difference.

$$\begin{array}{r}
 72 \longrightarrow \boxed{\phantom{00}} \\
 - 37 \longrightarrow - \boxed{\phantom{00}} \\
 \hline
 \hline
 \boxed{\phantom{00}}
 \end{array}$$

2. Round to the nearest hundred to estimate the difference.

$$\begin{array}{r}
 586 \longrightarrow \boxed{\phantom{000}} \\
 - 314 \longrightarrow - \boxed{\phantom{000}} \\
 \hline
 \hline
 \boxed{\phantom{000}}
 \end{array}$$

Use compatible numbers to estimate the difference.

3.

$$\begin{array}{r}
 95 \longrightarrow \boxed{\phantom{00}} \\
 - 26 \longrightarrow - \boxed{\phantom{00}} \\
 \hline
 \hline
 \boxed{\phantom{00}}
 \end{array}$$

4.

$$\begin{array}{r}
 768 \longrightarrow \boxed{\phantom{000}} \\
 - 273 \longrightarrow - \boxed{\phantom{000}} \\
 \hline
 \hline
 \boxed{\phantom{000}}
 \end{array}$$

**Apply and Grow: Practice**

Round to the nearest ten to estimate the difference.

$$\begin{array}{r} 5. \quad 556 \\ - 129 \\ \hline \end{array} \quad \begin{array}{r} \square \\ \hline \square \\ \hline \square \end{array}$$

$$\begin{array}{r} 6. \quad 384 \\ - 31 \\ \hline \end{array} \quad \begin{array}{r} \square \\ \hline \square \\ \hline \square \end{array}$$

$$\begin{array}{r} 7. \quad 702 \\ - 428 \\ \hline \end{array} \quad \begin{array}{r} \square \\ \hline \square \\ \hline \square \end{array}$$

Round to the nearest hundred to estimate the difference.

$$\begin{array}{r} 8. \quad 763 \\ - 98 \\ \hline \end{array} \quad \begin{array}{r} \square \\ \hline \square \\ \hline \square \end{array}$$

$$\begin{array}{r} 9. \quad 901 \\ - 305 \\ \hline \end{array} \quad \begin{array}{r} \square \\ \hline \square \\ \hline \square \end{array}$$

$$\begin{array}{r} 10. \quad 875 \\ - 529 \\ \hline \end{array} \quad \begin{array}{r} \square \\ \hline \square \\ \hline \square \end{array}$$

Use compatible numbers to estimate the difference.

$$\begin{array}{r} 11. \quad 985 \\ - 148 \\ \hline \end{array} \quad \begin{array}{r} \square \\ \hline \square \\ \hline \square \end{array}$$

$$\begin{array}{r} 12. \quad 676 \\ - 226 \\ \hline \end{array} \quad \begin{array}{r} \square \\ \hline \square \\ \hline \square \end{array}$$

$$\begin{array}{r} 13. \quad 549 \\ - 52 \\ \hline \end{array} \quad \begin{array}{r} \square \\ \hline \square \\ \hline \square \end{array}$$

Estimate the difference.

$$14. \quad 455 - 221$$

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

$$15. \quad 674 - 348$$

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

$$16. \quad 97 - 53$$

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

17. **DIG DEEPER!** Write a subtraction problem using 2 three-digit numbers that have an estimated difference of 200.

18. **MP Structure** Did Descartes round to the nearest ten or to the nearest hundred to estimate the difference?

407 - 302 is about 100.

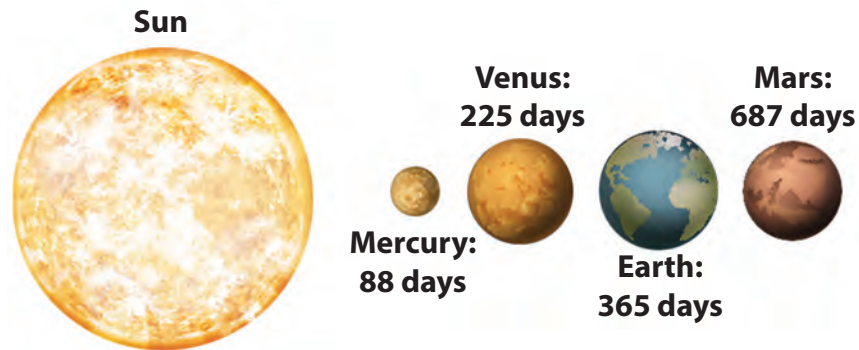




## Think and Grow: Modeling Real Life

The diagram shows the numbers of days it takes four planets to orbit the Sun. About how many more days does it take Mars to orbit the Sun than Venus?

Estimate:



It takes Mars about \_\_\_\_\_ more days than Venus.

## Show and Grow

19. Use the diagram above to find about how many more days it takes Earth to orbit the Sun than Mercury.
- 
20. Your school gym can seat 500 people on one side and 350 people on the other side. There are 459 people in their seats. About how many more people can be seated in the gym?
- 
21. A bus is traveling 876 miles from Raleigh to New Orleans. The bus travels 264 miles in the morning and 327 miles in the afternoon. About how many more miles does the bus have left to travel? Explain.



**Learning Target:** Use rounding or compatible numbers to estimate differences.

**Example** Estimate  $672 - 423$ .

**One Way:** Use rounding. Round each number to the nearest hundred. Then find the difference of the rounded numbers.

$$\begin{array}{r} 672 \longrightarrow \boxed{700} \\ - 423 \longrightarrow - \boxed{400} \\ \hline \boxed{300} \end{array}$$

So,  $672 - 423$  is about 300.

**Another Way:** Use compatible numbers.

$$\begin{array}{r} 672 \longrightarrow \boxed{675} \\ - 423 \longrightarrow - \boxed{425} \\ \hline \boxed{250} \end{array}$$

So,  $672 - 423$  is about 250.



Round to the nearest ten to estimate the difference.

1.  $\begin{array}{r} 847 \quad \boxed{\phantom{00}} \\ - 468 \quad - \boxed{\phantom{00}} \\ \hline \boxed{\phantom{00}} \end{array}$

2.  $\begin{array}{r} 153 \quad \boxed{\phantom{00}} \\ - 129 \quad - \boxed{\phantom{00}} \\ \hline \boxed{\phantom{00}} \end{array}$

3.  $\begin{array}{r} 34 \quad \boxed{\phantom{00}} \\ - 21 \quad - \boxed{\phantom{00}} \\ \hline \boxed{\phantom{00}} \end{array}$

Round to the nearest hundred to estimate the difference.

4.  $\begin{array}{r} 598 \quad \boxed{\phantom{00}} \\ - 347 \quad - \boxed{\phantom{00}} \\ \hline \boxed{\phantom{00}} \end{array}$

5.  $\begin{array}{r} 811 \quad \boxed{\phantom{00}} \\ - 67 \quad - \boxed{\phantom{00}} \\ \hline \boxed{\phantom{00}} \end{array}$

6.  $\begin{array}{r} 931 \quad \boxed{\phantom{00}} \\ - 747 \quad - \boxed{\phantom{00}} \\ \hline \boxed{\phantom{00}} \end{array}$

Use compatible numbers to estimate the difference.

7.  $\begin{array}{r} 96 \quad \boxed{\phantom{00}} \\ - 47 \quad - \boxed{\phantom{00}} \\ \hline \boxed{\phantom{00}} \end{array}$

8.  $\begin{array}{r} 678 \quad \boxed{\phantom{00}} \\ - 142 \quad - \boxed{\phantom{00}} \\ \hline \boxed{\phantom{00}} \end{array}$

9.  $\begin{array}{r} 746 \quad \boxed{\phantom{00}} \\ - 51 \quad - \boxed{\phantom{00}} \\ \hline \boxed{\phantom{00}} \end{array}$

Estimate the difference.

10.  $258 - 205$

\_\_\_\_ - \_\_\_\_ = \_\_\_\_

11.  $781 - 62$

\_\_\_\_ - \_\_\_\_ = \_\_\_\_

12.  $914 - 522$

\_\_\_\_ - \_\_\_\_ = \_\_\_\_

13. **YOU BE THE TEACHER** Your friend estimated the difference by rounding to the nearest hundred. Is your friend correct? Explain.

649		<input type="text" value="600"/>
- 308	-	<input type="text" value="300"/>
<hr/>		<input type="text" value="900"/>

14. **MP Structure** Estimate the difference of  $581 - 213$  two different ways.

15. **Modeling Real Life** A drama club sold 259 tickets for a school play. So far, 103 people have arrived for the play. About how many more people are expected to arrive?



16. **Modeling Real Life** Construction workers are building an 800-foot tall building. They complete 76 feet one month and 195 feet the next month. About how many more feet do they have left to build?

### Review & Refresh

17. Find the area of the rectangle.



\_\_\_\_  $\times$  \_\_\_\_ = \_\_\_\_

Area = \_\_\_\_\_

1. The table shows the number of photos a photographer takes each day.
- a. About how many more photos does the photographer take on Saturday than Sunday?

Day	Number of Photos
Thursday	157
Friday	104
Saturday	221
Sunday	91

- b. Estimate the total number of photos taken all four days.

- c. Is the actual number of photos more than or less than your estimate from above? Explain.

- d. The photographer's camera can store 700 photos. About how many more photos can the photographer take?



- e. The photographer gives you all of the photos. You put some photos in an album. You have 453 photos left. How many photos are in your album?



- f. Your album has 10 pages. You put an equal number of photos on each page. How many photos are on each page?

# Round to Find a Pearl

## Directions:

1. Players take turns rolling a die.
2. On your turn, move your piece the number of spaces shown on the die. If the space is purple, then round the number to the nearest ten. If the space is green, then round the number to the nearest hundred.
3. Find the rounded number on a pearl and cover it with a counter.
4. Repeat this process until all of the pearls are covered. The player who covers the most pearls wins!

The game board is a 7x8 grid of numbered spaces. The top-left space is labeled 'START' with a right-pointing arrow. The spaces are colored purple or green. The numbers in the spaces are: Row 1: 61, 89, 101, 7, 139, 293, 221; Row 2: 72, 48; Row 3: 577, 413; Row 4: 336, 72; Row 5: 886, 693; Row 6: 584, 584; Row 7: 293, 886; Row 8: 61, 221, 48, 139, 608, 315, 577, 336. In the center of the board are 15 oyster shells, each containing a pearl with a number: 70, 610, 700, 10, 50, 90, 100, 290, 900, 410, 600, 140, 580, 200, 320, 60, 340.

**7.1** **Place Value**

Circle the value of the underlined digit.

1. <u>9</u> 41	900	9	90
2. 5 <u>3</u> 7	3	30	300

Identify the value of each digit.

3.

4.

**7.2** **Round Numbers Using a Number Line**

Round the number to the nearest ten and to the nearest hundred.

5. 725

Nearest ten: \_\_\_\_\_

Nearest hundred: \_\_\_\_\_

6. 34

Nearest ten: \_\_\_\_\_

Nearest hundred: \_\_\_\_\_

## 7.3 Round Numbers Using Place Value

Round the number to the nearest ten and to the nearest hundred.

7. 247

Nearest ten: \_\_\_\_\_

Nearest hundred: \_\_\_\_\_

8. 571

Nearest ten: \_\_\_\_\_

Nearest hundred: \_\_\_\_\_

9. 86

Nearest ten: \_\_\_\_\_

Nearest hundred: \_\_\_\_\_

10. **MP Number Sense** Descartes rounds 742 to 700. To what place does he round?

## 7.4 Estimate Sums

Estimate the sum.

11.  $33 + 59$

\_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

12.  $124 + 477$

\_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

13.  $122 + 181$

\_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

## 7.5 Estimate Differences

Estimate the difference.

14.  $692 - 71$

\_\_\_\_\_ - \_\_\_\_\_ = \_\_\_\_\_

15.  $478 - 152$

\_\_\_\_\_ - \_\_\_\_\_ = \_\_\_\_\_

16.  $537 - 409$

\_\_\_\_\_ - \_\_\_\_\_ = \_\_\_\_\_

17. **Modeling Real Life** A killer whale is 312 inches long. A striped dolphin is 102 inches long. About how much longer is the killer whale than the striped dolphin?

