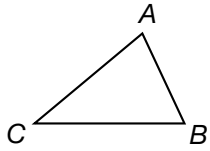
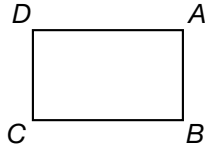
• Using Letters to Identify Geometric Figures

- To name a **polygon**, use the letters at its vertices.
    1. Choose any vertex as the starting point.
    2. Move around the perimeter in either direction, recording the letter of each vertex in order. Be careful not to skip any vertices.
    3. Stop after all vertices have been recorded.

Examples:



This triangle is $\triangle ABC$. It can also be named $\triangle BCA$, $\triangle CAB$, $\triangle ACB$, $\triangle BAC$, or $\triangle CBA$.



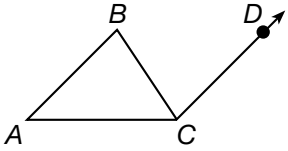
This is rectangle *ABCD* or *ADCB*, but not *ACBD* or *ACDB*.

- Name a **line** by naming two points on the line.
- Name a **segment** by naming the endpoints of the segment.
- Name a **ray** by first naming the endpoint and then a point on the ray.

Naming Lines, Segments, and Rays

Figure	Name	Abbreviation
A B	line *AB*	$\overleftrightarrow{AB}$
A B	segment *AB*	$\overline{AB}$
A B	ray *AB*	$\overrightarrow{AB}$

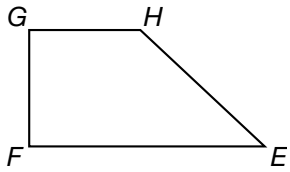
- Name an angle using the letter at its vertex. If there is a chance for confusion, use three letters with the vertex as the middle letter.



Angle *ACB* is inside the triangle. Angle *BCD* is outside the triangle. Each has *C* at its vertex.

Practice:

1. Name this trapezoid four different ways.



_____ _____ _____ _____

2. Which segment is perpendicular to $\overline{GH}$? _____

3. If $\overline{GH}$ is 14 cm long and if $\overline{FE}$ is twice the length of $\overline{GH}$, then what is $\overline{FE}$? _____

4. Rename angle *BAC* using only its vertex. _____

Name _____

Reteaching 62

Lesson 62

• Estimating Arithmetic Answers with Rounded and Compatible Numbers

- Estimation uses rounded numbers to make the math easier.
- An estimated answer is not an exact answer.
- You can estimate to see if your exact answers make sense.

Examples: Compare two ways of estimating a money arithmetic problem to the exact answer.

\$7.00 ←	\$7.23 →	\$7.25
\$5.00 ←	\$4.77 →	\$4.75
+ \$12.00 ←	+ \$12.43 →	+ \$12.50
\$24.00	\$24.43	\$24.50

In the estimate on the right, we rounded using compatible numbers and got an answer that was closer to the exact calculation. Sometimes using numbers you know, such as multiples of common money amounts, can help make estimating easier and more accurate.

Practice:

Estimate each answer by rounding the numbers before doing the arithmetic.

1. $57 \rightarrow 60$, $\times 47 \rightarrow \times 50$

2. $33 \rightarrow 30$, $+56 \rightarrow +60$

3. $45 \rightarrow$, $\times 35 \rightarrow \times$ ____

4. $37 - 17$ ____

5. 92×25 ____

6. $496 - 214$ ____

7. $531 + 489$ ____

8. $124 \div 31$ ____

9. $252 \div 46$ ____

• Subtracting a Fraction from a Whole Number Greater than 1

- To subtract a fraction from a whole number greater than 1:
    1. Line the numbers up vertically.
    2. Borrow 1 from the whole number and rename the 1 as a fraction.
    3. Subtract.
- Use the same steps to subtract a mixed number from a whole number, but remember to subtract the whole numbers column after the fractions column.

Examples:

$2 - \frac{1}{4}$

$$\begin{array}{r} {\scriptstyle 1}\not{2}\ \frac{4}{4} \\ -\ \ \frac{1}{4} \\ \hline 1\ \frac{3}{4} \end{array}$$

$8 - 1\frac{2}{3}$

$$\begin{array}{r} 8\ \frac{3}{3} \\ -\ 1\ \frac{2}{3} \\ \hline 6\ \frac{1}{3} \end{array}$$

- When you subtract a fraction from a whole number greater than 1, your answer will always be a mixed number greater than 1.

Practice:

Subtract. Borrow from the whole number and rename.

1. $\begin{array}{r} 3 \\ -\ \frac{2}{3} \\ \hline \end{array}$

2. $\begin{array}{r} 4 \\ -\ \frac{4}{5} \\ \hline \end{array}$

3. $\begin{array}{r} 2 \\ -\ 1\frac{1}{2} \\ \hline \end{array}$

4. $\begin{array}{r} 6 \\ -\ 4\frac{2}{5} \\ \hline \end{array}$

5. $\begin{array}{r} 9 \\ -\ 6\frac{3}{4} \\ \hline \end{array}$

6. $\begin{array}{r} 7 \\ -\ 6\frac{7}{8} \\ \hline \end{array}$

7. $\begin{array}{r} 11 \\ -\ 8\frac{5}{6} \\ \hline \end{array}$

8. $\begin{array}{r} 10 \\ -\ 9\frac{9}{10} \\ \hline \end{array}$

9. $\begin{array}{r} 3 \\ -\ 2\frac{3}{7} \\ \hline \end{array}$

Name _____

Reteaching 64

Lesson 64

• Using Money to Model Decimal Numbers

- We can use money to understand decimal numbers because our coins, such as pennies and dimes, represent fractional parts of whole dollar amounts.

  Example:

  1 penny = $\frac{1}{100}$ dollar

  1 dime = $\frac{1}{10}$ dollar

- We can write these fractions as decimals.

  $\frac{1}{100}$ = 0.01 = one hundredth $\frac{1}{100}$ dollar = \$0.01 = 1 cent

  $\frac{1}{10}$ = 0.1 = one tenth $\frac{1}{10}$ dollar = \$0.1 = 10 cents

	Whole Numbers			Decimals	
Place Name	hundreds	tens	ones	tenths	hundredths
Place Value	100	10	1	$\frac{1}{10}$	$\frac{1}{100}$
Place	_____	_____	_____	_____	_____
Money Value of Place	\$100 bills	\$10 bills	\$1 bills	dimes	pennies

Practice:

Name the place of the 5 in each of these numbers.

1. \$23.50 _____

2. \$58.19 _____

3. \$75.92 _____

4. \$46.05 _____

5. What combination of dollars, dimes, and pennies makes \$4.68 using the fewest bills and coins possible?

_____ dollars _____ dimes _____ pennies

6. Is \$13.56 closer to \$13.50 or \$13.60?

Remember to write the dollar sign. _____

7. Is \$7.14 closer to \$7.10 or \$7.20?

Remember to write the dollar sign. _____

Write each money amount as a decimal number, using a dollar sign.

8. twenty-three cents _____

9. nineteen cents _____

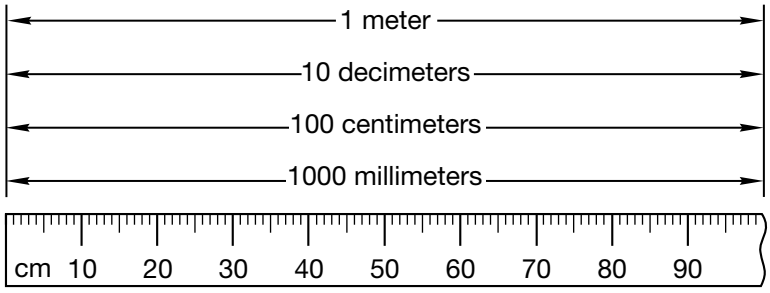
10. four cents _____

11. one hundred one cents _____

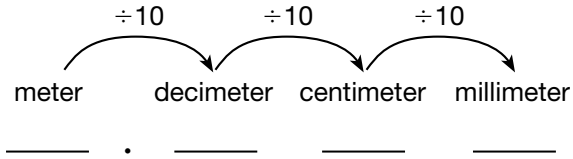
12. eight cents _____

• Decimal Parts of a Meter

- The **meter** is the basic unit of length in the Metric System.
- Meters can be divided into smaller units of tenths, hundredths, and thousandths.
- These smaller units are called **decimeters**, **centimeters**, and **millimeters**.
- Below we show a meterstick at $\frac{1}{10}$ scale to illustrate these relationships.



- The fractional parts of a meter can represent a decimal number.



_____ . _____ _____ _____

Practice:

1. Which of these is the most reasonable measurement for the length of a baseball bat? _____

A 0.85 centimeters

B 0.85 decimeters

C 0.85 meters

D 0.85 millimeters

2. Mazie races the 200-meter freestyle on her swim team. Write the distance of Mazie's race in centimeters.

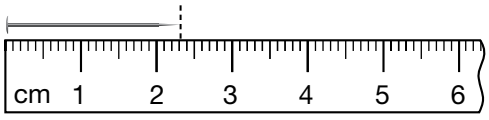
_____

3. Sigmund measured the length of his arm and found it was 42 centimeters long. Write the length of Sigmund's arm in meters.

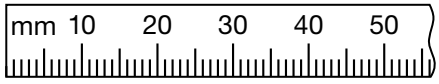
_____

• Reading a Centimeter Scale

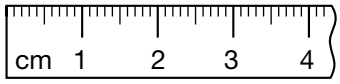
- When measuring in the Metric System, write fractions in **decimal** form.
- The pin is three tenths more than 2 cm. So we say the length is 2.3 cm.

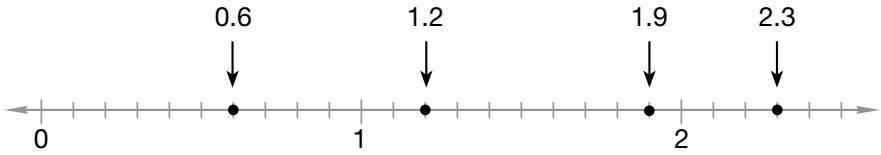


- How we write a length depends on which units we use.
- The segment to the right is 15 millimeters long. It is also 1.5 centimeters long.
- Decimals can also be shown on a number line.



_____





Practice:

Use a metric ruler to find the following measurements. Write each measurement twice, once in millimeters and once in centimeters.

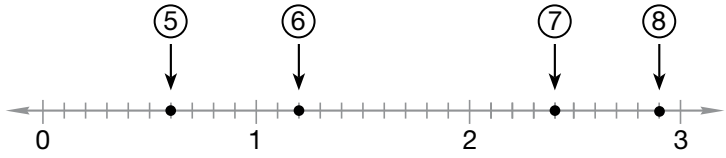
1. length of your pencil _____mm_____; _____cm_____

2. length of your ruler _____mm_____; _____cm_____

3. width of this worksheet _____mm_____; _____cm_____

4. length of a one-inch line _____mm_____; _____cm_____

Write a decimal number to name each point marked by an arrow on the number line below.



5. _____ **6.** _____ **7.** _____ **8.** _____

Name _____

• Writing Tenths and Hundredths as Decimal Numbers

- The fraction $\frac{1}{10}$ and the decimal number 0.1 both name "one tenth".
- The fraction $\frac{1}{100}$ and the decimal number 0.01 both name "one hundredth".

Examples:

$\frac{60}{100} = 0.60$ $\frac{6}{10} = 0.6$

$\frac{6}{100} = 0.06$ $\frac{85}{100} = 0.85$

- Notice that when the fraction has only one digit in the numerator and the denominator is 100, we still write two digits after the decimal point.

Practice:

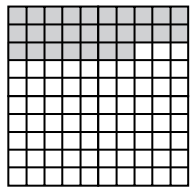
1. Name the shaded part of the rectangle as a fraction and as a decimal number.

Fraction: _____ Decimal: _____

2. Name the part of the rectangle that is not shaded both as a fraction and as a decimal number.

Fraction: _____ Decimal: _____

3. Name the shaded portion of the square both as a fraction and as a decimal number.



Fraction: _____ Decimal: _____

4. Name the unshaded portion of the square both as a fraction and as a decimal number.

Fraction: _____ Decimal: _____

Write a faction or mixed number as a decimal number.

5. $1\frac{9}{10} =$ _____ **6.** $\frac{3}{100} =$ _____ **7.** $5\frac{67}{100} =$ _____

Write each decimal number as a fraction or mixed number.

8. 0.09 = _____ **9.** 3.6 = _____ **10.** 4.21 = _____

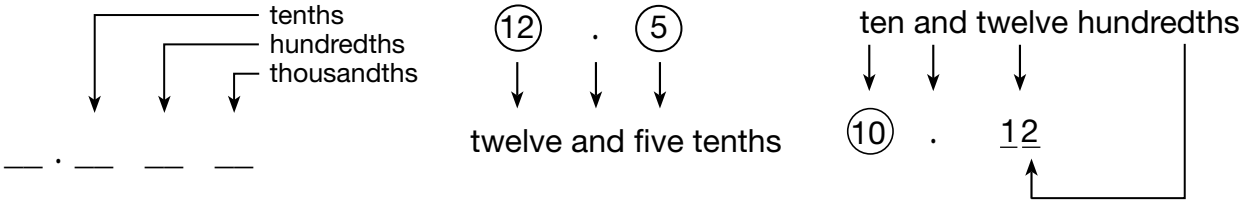
Name _____

Reteaching **68**

Lesson 68

• Naming Decimal Numbers

• When naming decimal numbers, name the place value of the last digit.



Practice:

Use words to name each decimal number.

1. 4.7 _____

2. 17.83 _____

3. 0.529 _____

4. 6.005 _____

Use digits to write each decimal number.

5. thirty-six and forty-eight hundredths ____ ____. ____ ____

6. nineteen and twenty-four hundredths ____ ____. ____ ____

7. seventy-one and five tenths ____ ____. ____

8. five hundred sixty-nine thousandths ____. ____ ____ ____

Name _____

• Comparing and Ordering Decimal Numbers

- Fractions of a second are usually expressed as decimals.

  Example: Cameron ran the 400-meter dash in 63.5 seconds.

- To compare decimal numbers, look at the **place value**.

  $\underline{11}.7 > \underline{1}.7$ $\underline{2}.3 < \underline{23}.8$

  1. Compare whole numbers.
  2. Compare tenths.
  3. Compare hundredths.

- It helps to line up the numbers vertically along the decimal points.

  2.03
  2.3
  2.13

Practice:

1. Hilde rode her bicycle 200 meters in $\underline{22}.7$ seconds. Martin rode his bicycle 200 meters in $\underline{23}.4$ seconds. Which athlete rode faster? ("Faster" means fewer seconds.)

_____ rode faster

2. Compare. $\underline{4}.17 \bigcirc \underline{41}.7$

4.17
41.7

3. Write these numbers in order from least to greatest.

5.10 51.01 5.01 51.10

_____, _____, _____, _____

4. Write these numbers in order from greatest to least.

11.11 1.01 10.10 1.111

_____, _____, _____, _____

Name _____

Reteaching 70

Lesson 70

• Writing Equivalent Decimal Numbers

- **Decimal places** are the number of digits to the right of the decimal point.

  1.234 → three decimal places
  15.2 → one decimal place

- Attaching zeros to the right of a decimal number does not change the value of the number.

  0.3 = 0.3000
  2.1 = 2.100000

- Money is usually written with two decimal places.

  $4.25 → two decimal places

- There are two ways to write money amounts.

  As a number of **cents** → 25¢
  As a decimal number of **dollars** → $0.25

- If a math problem uses two forms, rewrite it using the same form.

Example: To solve $2.14 + 67¢, both amounts must be in the same form.

$$\begin{array}{r} \$2.14 \\ +\ \$0.67 \\ \hline \$2.81 \end{array} \quad \text{or} \quad \begin{array}{r} 214¢ \\ +\ 67¢ \\ \hline 281¢ \end{array}$$

Practice:

Write each number with three decimal places.

1. 1.8 ____.____ ____ ____

2. 3.68 ____.____ ____ ____

3. 0.67000 ____.____ ____ ____

Compare.

4. 30 ◯ 300

5. 0.30 ◯ 0.03

6. 0.03 ◯ 0.030

Write each money amount both in cent form and in dollar form.

7. twenty cents

_____ ¢ $ _____

8. fifty-six cents

_____ ¢ $ _____

9. ninety-two cents

_____ ¢ $ _____