

Module 4 - Lesson 28:

Convert customary measurements involving decimals.

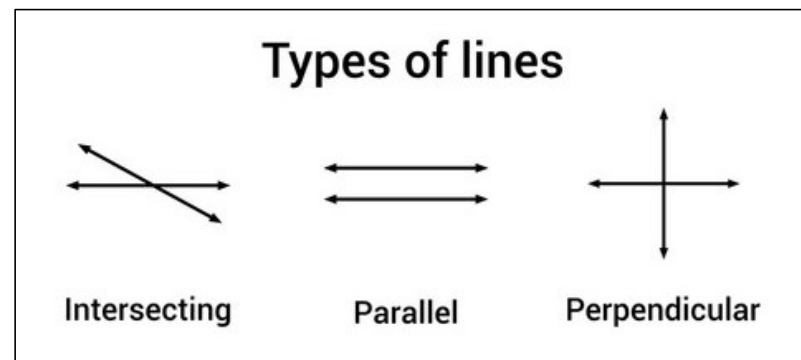
CCSS Standard – 5.MD.A.1

FLUENCY (10-min)

Show Me Geometric Figures: Lines and Line Segments.

Let's use our hands and arms to show a line, and parallel and perpendicular lines.

Show me a line.



To show parallel lines, we will do this...

Parallel Lines



To show perpendicular lines, we will do this...

Perpendicular Lines



FLUENCY (10-min)

Show Me Geometric Figures: Lines and Line Segments.

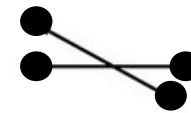
Let's use our hands and arms to show a line segment, and parallel and perpendicular line segments.

Show me a line segment.

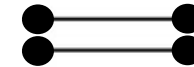
Line Segment



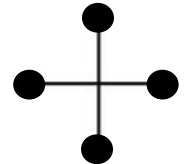
Types of line segments



Intersecting



Parallel



Perpendicular

To show parallel line segments, we will do this...

Parallel Line Segments



To show perpendicular line segments, we will do this...

Perpendicular Line Segments



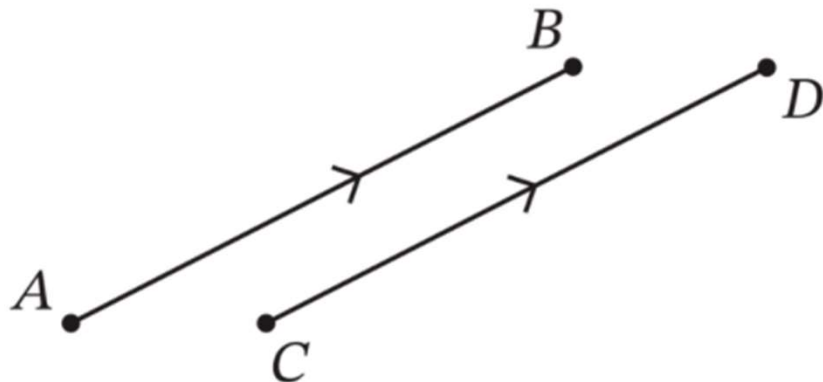
FLUENCY (10-min)

Whiteboard Exchange: Geometric Terms and Notations



What word can we use to complete the statement and describe the relationship of the line segments?

Raise your hand when you know.



Line segment AB is _____ to line segment CD .

On my signal, read the statement.

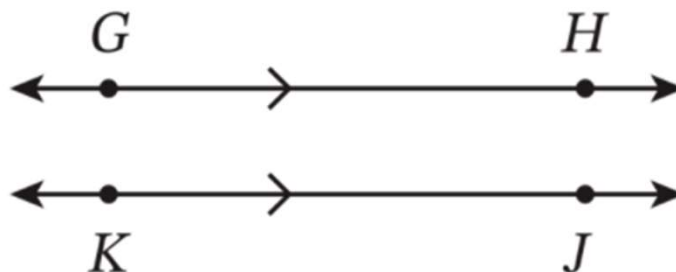
FLUENCY (10-min)

Whiteboard Exchange: Geometric Terms and Notations



What word can we use to complete the statement and describe the relationship of the line segments?

Raise your hand when you know.



Line GH is _____ to line KJ .

On my signal, read the statement.

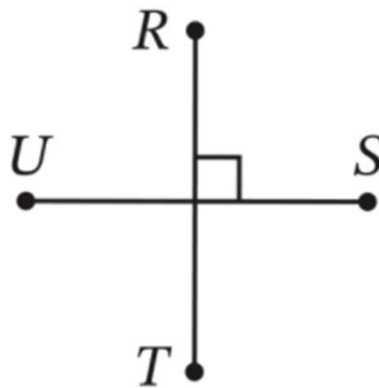
FLUENCY (10-min)

Whiteboard Exchange: Geometric Terms and Notations



What word can we use to complete the statement and describe the relationship of the line segments?

Raise your hand when you know.



Line segment RT is _____ to line segment US .

On my signal, read the statement.

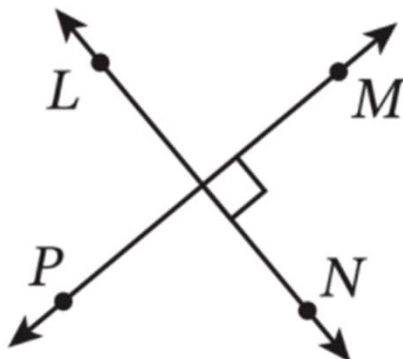
FLUENCY (10-min)

Whiteboard Exchange: Geometric Terms and Notations



What word can we use to complete the statement and describe the relationship of the line segments?

Raise your hand when you know.



Line LN is _____ to line PM .

On my signal, read the statement.

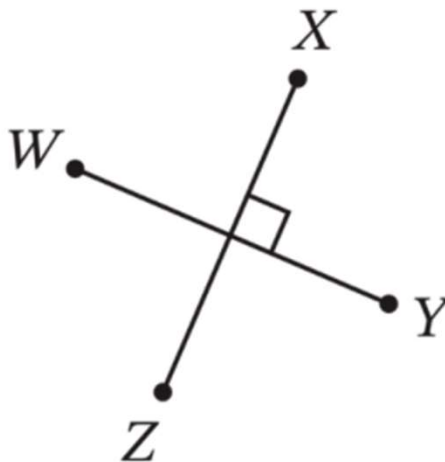
FLUENCY (10-min)

Whiteboard Exchange: Geometric Terms and Notations



What word can we use to complete the statement and describe the relationship of the line segments?

Raise your hand when you know.



Line segment WY is _____ to line segment XZ .

On my signal, read the statement.

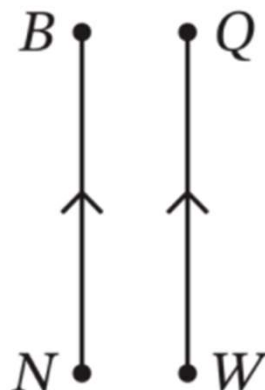
FLUENCY (10-min)

Whiteboard Exchange: Geometric Terms and Notations



What word can we use to complete the statement and describe the relationship of the line segments?

Raise your hand when you know.



Line segment BN is _____ to line segment QW .

On my signal, read the statement.

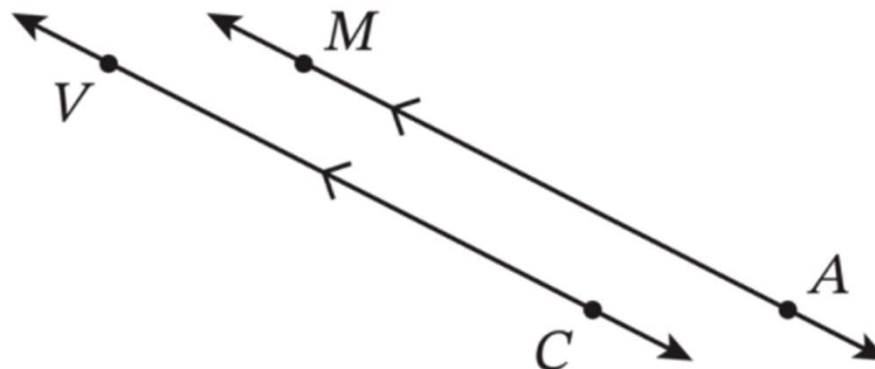
FLUENCY (10-min)

Whiteboard Exchange: Geometric Terms and Notations



What word can we use to complete the statement and describe the relationship of the line segments?

Raise your hand when you know.



Line VC is _____ to line MA .

On my signal, read the statement.

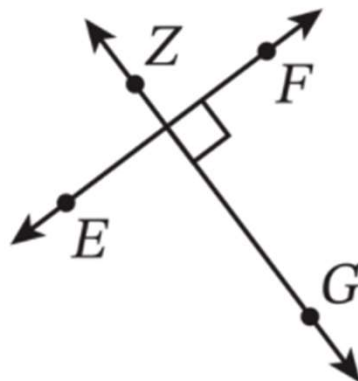
FLUENCY (10-min)

Whiteboard Exchange: Geometric Terms and Notations



What word can we use to complete the statement and describe the relationship of the line segments?

Raise your hand when you know.



Line EF is _____ to line ZG .

On my signal, read the statement.

FLUENCY (10-min)

Choral Response: Read the Measurement Scales

Raise your hand when you know the answer to each question.

Wait for my signal to say the answer.

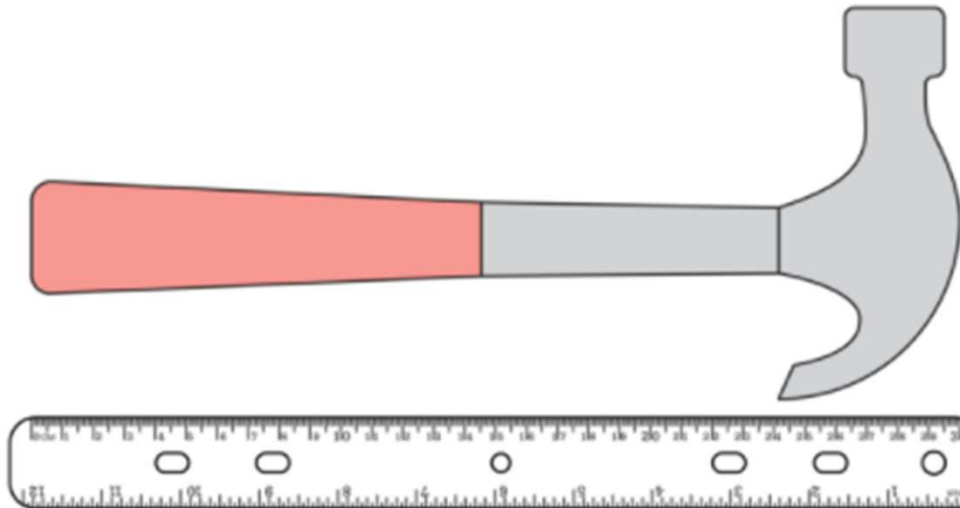
Read the ruler.

What is the length of the nail in centimeters?



Read the ruler.

What is the length of the hammer in centimeters?



How would you complete the statement to represent the relationship between the lengths of the nail and the hammer.

The hammer is _____ times as _____ as the nail.

The nail is _____ times as _____ as the hammer.

FLUENCY (10-min)

Choral Response: Read the Measurement Scales

Raise your hand when you know the answer to each question.

Wait for my signal to say the answer.

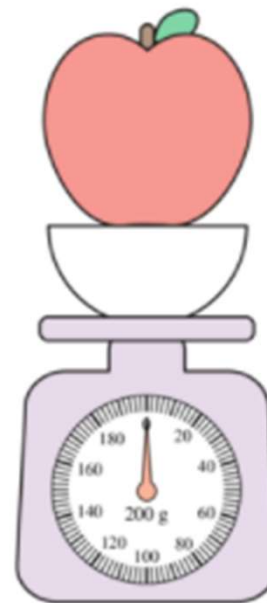
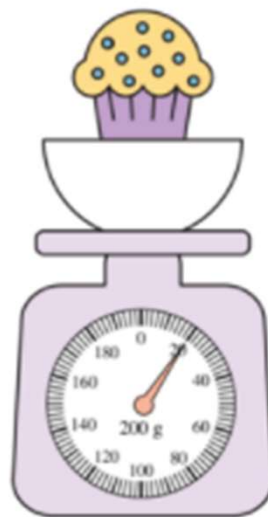
Read the scale.

What is the weight of the muffin in grams?

Read the scale.

What is the weight of the apple in grams?

How would you complete the statement to represent the relationship between the weights of the muffin and the apple?



The apple is _____ times as _____ as the muffin.

The muffin is _____ times as _____ as the apple.

FLUENCY (10-min)

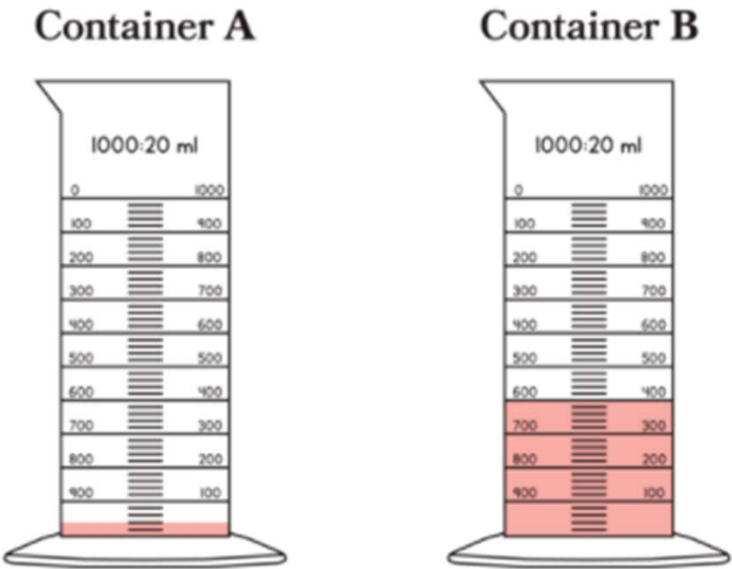
Choral Response: Read the Measurement Scales

Raise your hand when you know the answer to each question.
Wait for my signal to say the answer.

Read the graduated cylinder.
What is the volume of Container A
in milliliters?

Read the graduated cylinder.
What is the volume of Container B
in milliliters?

How would you complete the
statement to represent the
relationship between the
volume of Containers A and B?



Container B has _____ times as _____ liquid as container A.

Container A has _____ times as _____ liquid as container B.

LAUNCH (10-min)

Convert gallons and quarts in **fraction form** and rename the measurements in **decimal form**.



Silent Thinking: How much milk is shown here using ONE measurement unit.



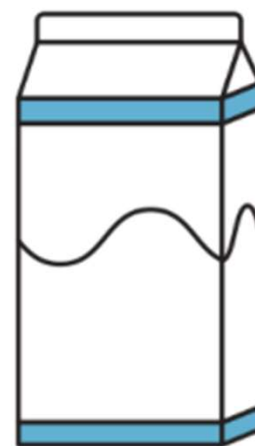
1 gal



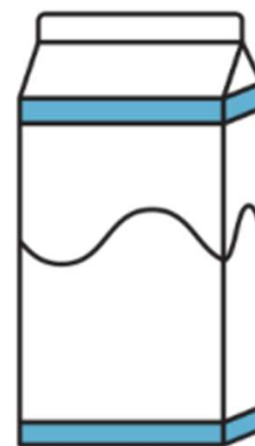
1 gal



1 gal



1 qt



1 qt

LAUNCH (10-min)

Convert gallons and quarts in **fraction form** and rename the measurements in **decimal form**.



quarts

1 gallon = 4 quarts

3 gallons = 12 quarts

$$4 + 4 + 4 + 1 + 1 = \mathbf{14 \text{ quarts}}$$



gallons

1 quart = $\frac{1}{4}$ gallon

2 quarts = $\frac{2}{4}$ gallon or $\frac{1}{2}$ a gallon

$$1 + 1 + 1 + \frac{1}{4} + \frac{1}{4} = \mathbf{3 \frac{1}{2} \text{ gallons}}$$

$$1 + 1 + 1 + 0.25 + 0.25 = \mathbf{3.50 \text{ gal.}}$$

LEARN (30-min)

Convert Measurements from Larger Units to Smaller Units

REMINDER: When we convert from LARGE to SMALL units, we must multiply because we need more smaller units to equal the larger units.

Let's go back and check that 3.5 gallons = 14 quarts by using an equation to convert 3.5 gallons to quarts.

$$3.5 \text{ gal.} = \underline{\hspace{2cm}} \text{ qt.}$$

There will be more quarts because quarts are smaller than gallons.

$$\begin{aligned} 3.5 \text{ gal.} &= 3.5 \times 1 \text{ gal} \\ &= 3.5 \times 4 \text{ qt} \\ &= 14 \text{ qt} \end{aligned}$$

Ask yourself, will there be more gallons or more quarts? How do you know?



What is the relationship between gallons and quarts?

1 gallon = 4 quarts

LEARN (30-min)

Convert Measurements from Larger Units to Smaller Units

REMINDER: When we convert from LARGE to SMALL units, we must multiply because we need more smaller units to equal the larger units.

Let's try a few more, LARGE to SMALL unit conversions.

$$4.5 \text{ yd.} = \underline{\hspace{2cm}} \text{ ft.}$$

There will be more feet because feet are smaller than yards.

$$\begin{aligned} 4.5 \text{ yd.} &= 4.5 \times 1 \text{ yd.} \\ &= 4.5 \times 3 \text{ ft} \\ &= 13.5 \text{ ft} \end{aligned}$$

Ask yourself, will there be more yards or more feet? How do you know?



What is the relationship between yards and feet?

1 yard = 3 feet

LEARN (30-min)

Convert Measurements from Larger Units to Smaller Units

REMINDER: When we convert from LARGE to SMALL units, we must multiply because we need more smaller units to equal the larger units.

Let's try one more, LARGE to SMALL unit conversions.

$$7.25 \text{ lb.} = \underline{\hspace{2cm}} \text{ oz.}$$

There will be more ounces because ounces are smaller than pounds.

Ask yourself, will there be more pounds or more ounces? How do you know?



What is the relationship between pounds and ounces?

1 pound = 16 ounces

$$\begin{aligned} 7.25 \text{ lb.} &= 7.25 \times 1 \text{ lb.} \\ &= 7.25 \times 16 \text{ oz.} \\ &= 116.00 \text{ oz.} \end{aligned}$$

LEARN (30-min)

Convert Measurements from Smaller Units to Larger Units

REMINDER: When we convert from SMALL to LARGE units, we must divide because we need less larger units to equal the smaller units.

Now, let's convert from smaller units to larger units.

$$40 \text{ oz.} = \underline{\hspace{2cm}} \text{ lb.}$$

There will be more ounces because ounces are smaller than pounds.

$$\begin{aligned} 40 \text{ oz.} &= 40 \times 1 \text{ oz.} \\ &= 40 \times \frac{1}{16} \text{ lb.} \\ &= 40/16 \\ &= 2.5 \text{ lb.} \end{aligned}$$

Ask yourself, will there be more ounces or pounds?
How do you know?



What is the relationship between ounces and pounds?

1 pound = 16 ounces
or
1 ounce = 1/16 of a pound

LEARN (30-min)

Convert Measurements from Smaller Units to Larger Units

REMINDER: When we convert from SMALL to LARGE units, we must divide because we need less larger units to equal the smaller units.

Let's try a few more, SMALL to LARGE unit conversions.

$$57 \text{ in.} = \underline{\hspace{2cm}} \text{ ft.}$$

There will be more inches because inches are smaller than feet.

$$\begin{aligned} 57 \text{ in.} &= 57 \times 1 \text{ in.} \\ &= 57 \times \frac{1}{12} \text{ ft.} \\ &= 57/12 \\ &= 4.75 \text{ ft.} \end{aligned}$$

Ask yourself, will there be more inches or feet? How do you know?



What is the relationship between inches and feet?

1 foot = 12 inches
or
1 inch = 1/12 of a foot

LEARN (30-min)

Convert Measurements from Smaller Units to Larger Units

REMINDER: When we convert from SMALL to LARGE units, we must divide because we need less larger units to equal the smaller units.

Let's try one more, SMALL to LARGE unit conversions.

$$6.5 \text{ c.} = \underline{\hspace{2cm}} \text{ pt.}$$

There will be more cups because cups are smaller than pints.

$$\begin{aligned} 6.5 \text{ c.} &= 6.5 \times 1 \text{ c.} \\ &= 6.5 \times \frac{1}{2} \text{ pt.} \\ &= 6.5 / 2 \\ &= 3.25 \text{ pt.} \end{aligned}$$

Ask yourself, will there be more cups or pints? How do you know?



What is the relationship between cups and pints?

1 pint = 2 cups
or
1 cup = 1/2 of a pint

LEARN (30-min)**Measurement Conversion Two-Step Word Problem**

LEARN book page 259.

Use the Read–Draw–Write process to solve the problem.

1. A scientist collects water samples from the pond. The scientist collects 16 samples. Each sample is 1.25 cups. How many total quarts of water does the scientist collect?

cups to quarts

$$16 \times 1.25$$

$$\begin{array}{r} 1\ 3 \\ 1.25 \\ \times 16 \\ \hline 1\ 7\ 5\ 0 \\ + 1\ 2\ 5\ 0 \\ \hline 2\ 0.0\ 0 \end{array}$$

$$20\text{ c.} = \underline{\hspace{2cm}}\text{ qt.}$$

There will be more cups because cups are smaller than quarts.

$$\begin{aligned} 20\text{ c.} &= 20 \times 1\text{ c.} \\ &= 20 \times \frac{1}{4}\text{ qt.} \\ &= 20 \div 4 \\ &= 5\text{ qt.} \end{aligned}$$

Ask yourself, will there be more cups or quarts? How do you know?

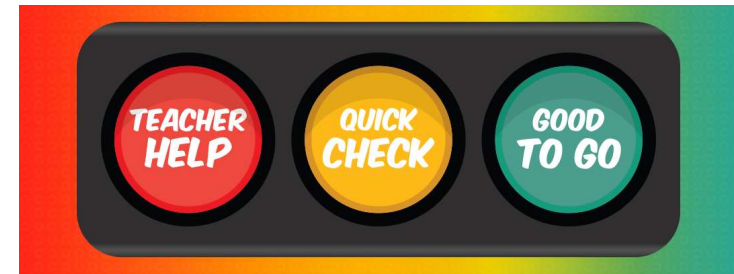
What is the relationship between cups and quarts?



1 quart = 4 cups
or
1 cup = $\frac{1}{4}$ of a quart

LAND (10-min)

Exit Ticket




Exit Ticket – PAGE 265

Small Group Time:

Problem Set Pages 261 - 263

Homework:

Page 177 APPLY BOOK

| | | | |
|------------------------------|----------------|------------|---|
| Name _____ | | Date _____ |  28 |
| Convert each measurement. | | | |
| 1. 6.3 yards = _____ inches | LARGE TO SMALL | | |
| | | | |
| 2. 3.44 cups = _____ pints | SMALL TO LARGE | | |
| | | | |
| 3. 7.2 ounces = _____ pounds | SMALL TO LARGE | | |