

On the back of the points, lines, and planes scavenger hunt from yesterday, copy the following chart. Then get a ruler and measure each length, filling out the chart.

Measure the width of a student desk in inches	26 23 24	Measure the distance between your eyes in centimeters	2cm - 6cm
Measure the height of a student desk in feet	3.5 3 2	Measure the length of your arm in inches	15-28 in
Measure the height of the classroom door frame in feet	7	Measure the circumference of your head in centimeters	
Estimate the length of the classroom end-to-end in feet	37'	Estimate the height of the classroom ceiling in yards	4 ft

8
6 in
11 1/3 ft 12 ft

RULERS

LESSON 1-2 Linear Measure

We have:

Identified and modeled points, lines and planes.
Measured segments.

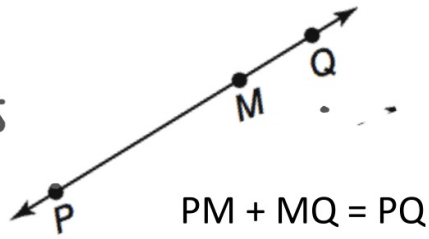
Today we will:

Calculate with measures to find unknown lengths and solve equations.

Betweenness

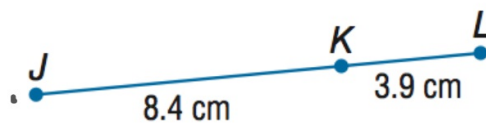
If a point is between two other points on a line, the whole segment is the sum of the two smaller segments.

point M is
between points
P and Q

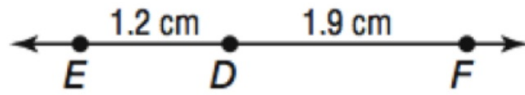


Find JL . Assume that the figure is
not drawn to scale.

$$\begin{array}{r} 1 \\ 8.4 \\ + 3.9 \\ \hline 12.3 \text{ cm} \end{array}$$

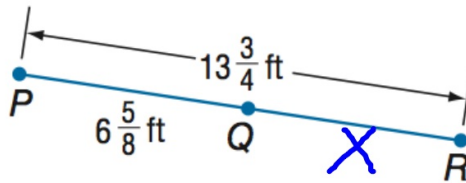


Find EF .



$$\begin{array}{r} 1.2 \\ + 1.9 \\ \hline 3.1 \text{ cm} \end{array}$$

Find QR . Assume that the figure is not drawn to scale.



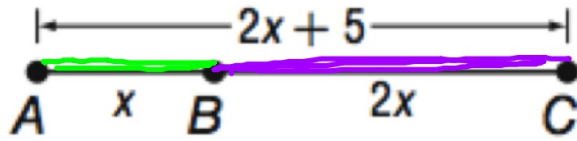
$$\begin{array}{r} \cancel{6 \frac{5}{8}} + x = 13 \frac{3}{4} \frac{6}{8} \\ - \cancel{6 \frac{5}{8}} \quad - 6 \frac{5}{8} \\ \hline x = 7 \frac{1}{8} \end{array} \quad \frac{3}{4} = \frac{6}{8} \quad \text{ft}$$

Find x and AC .

$$AC = 2(5) + 5$$

$$10 + 5$$

$$AC = 15$$



$$x + 2x = 2x + 5$$

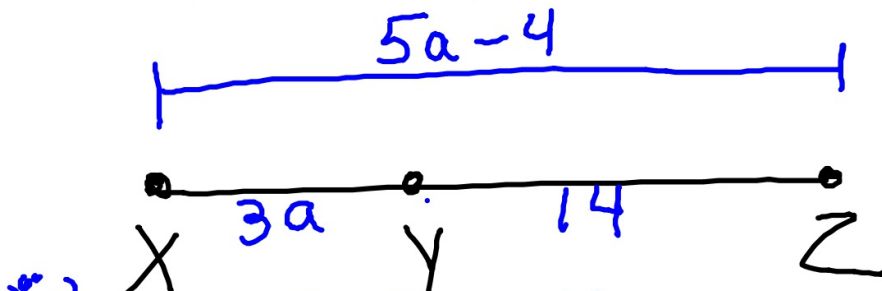
$$\begin{array}{r} 3x = 2x + 5 \\ -2x \quad -2x \\ \hline \end{array}$$

$$x = 5$$

✓

Find the value of a and XY if Y is between X and Z ,
 $XY = 3a$, $XZ = 5a - 4$, and $YZ = 14$.

Draw



$$3a + 14 = 5a - 4$$

$$\begin{array}{r} +4 \\ 3a + 18 = 5a \\ -3a \quad -3a \\ \hline 18 = 2a \end{array}$$

$$\frac{18}{2} = \frac{2a}{2}$$
$$9 = a$$

$$3A \quad (9) \quad (27)$$

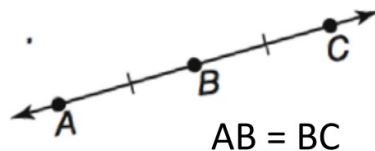
Find the value of x and RS if S is between R and T .

$$RS = 2x, ST = 5x + 4, \text{ and } RT = 32$$

Congruent segments

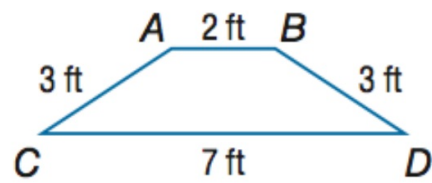
If two segments have the same length, they are called **congruent segments**. This is indicated by slashes in a picture.

AB and BC are congruent segments.



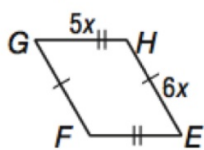
Determine whether each pair of segments is congruent.

$\overline{AC}, \overline{BD}$

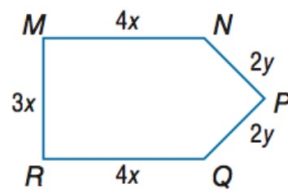


Determine whether each pair of segments is congruent.

$\overline{GF}, \overline{FE}$



$\overline{MN}, \overline{RQ}$



$\overline{EH}, \overline{FG}$

