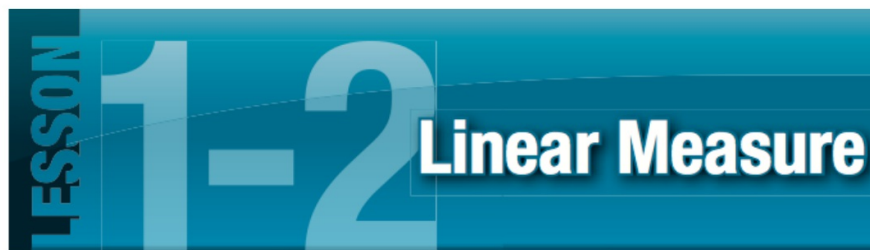


On the back of the points, lines, and planes scavenger hunt from yesterday, copy the following chart. Then get a ruler and measure each length, filling out the chart.

Measure the width of a student desk in <b>inches</b>	23½	Measure the distance between your eyes in <b>centimeters</b>	2½
Measure the height of a student desk in <b>feet</b>	2½	Measure the length of your arm in <b>inches</b>	22 in
Measure the height of the classroom door frame in <b>feet</b>	6½	Measure the circumference of your head in <b>centimeters</b>	71.5
Estimate the length of the classroom end-to-end in <b>feet</b>	37	Estimate the height of the classroom ceiling in <b>yards</b>	3½

↓ **RULERS** ↓



We have:

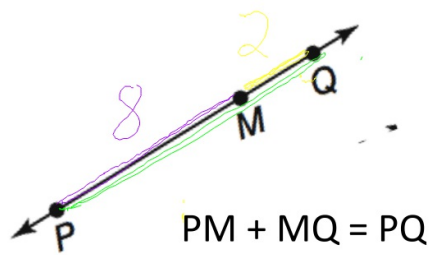
Identified and modeled points, lines and planes.  
Measured segments.

Today we will:

Calculate with measures to find unknown lengths and solve equations.

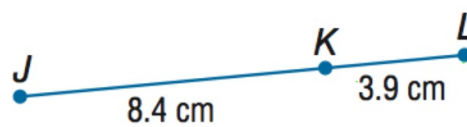
## Betweenness

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

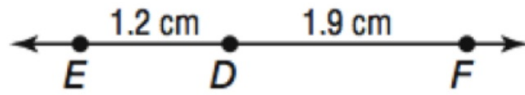


Find  $JL$ . Assume that the figure is not drawn to scale.

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

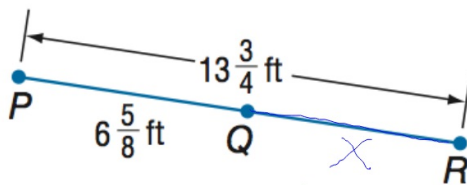


**Find  $EF$ .**



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

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

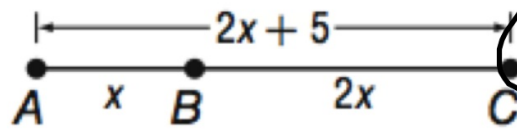


$$\begin{array}{r} \cancel{6 \frac{5}{8}} + X = 13 \frac{3}{4} \frac{6}{8} \\ - \cancel{6 \frac{5}{8}} \quad - 6 \frac{5}{8} \\ \hline X = 7 \frac{1}{8} \end{array} \quad \frac{3}{4} = \frac{6}{8}$$

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

$$10 + 5$$

Find  $x$  and  $AC$ .



$$AC = 15$$

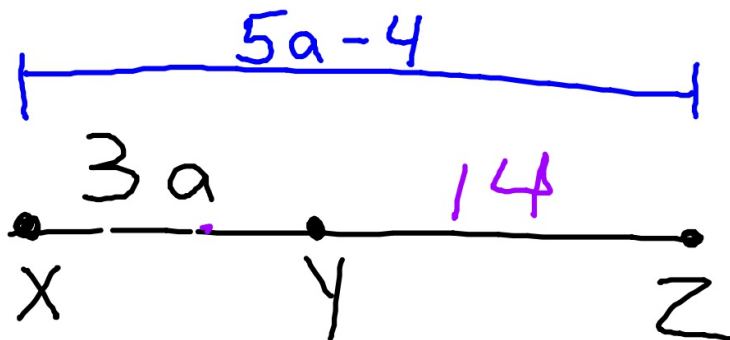
$$x + 2x = 2x + 5$$

$$3x = 2x + 5$$

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

Draw

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



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

$$\begin{array}{r} -3a \\ \hline 14 = 2a - 4 \end{array}$$

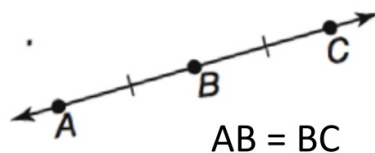
Find the value of  $x$  and  $RS$  if  $S$  is between  $R$  and  $T$ .

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

## Congruent segments

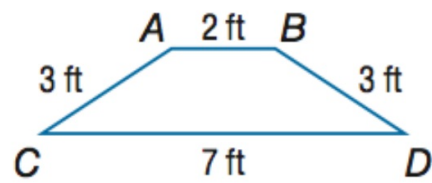
If two segments have the same length, they are called **congruent segments**. This is indicated by slashes in a picture.

$AB$  and  $BC$  are congruent segments.



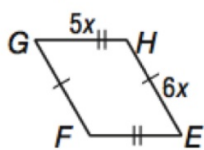
Determine whether each pair of segments is congruent.

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

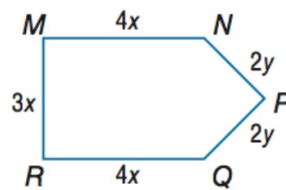


Determine whether each pair of segments is congruent.

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



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



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

