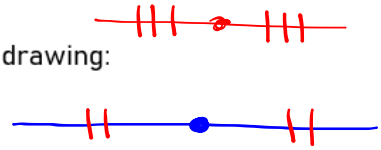
Learning Card # _____ | Name:

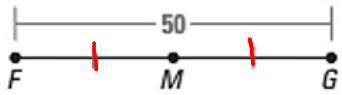
Point that divides the segment into 2 congruent segments.

This is similar to an angle bisector.

Midpoint drawing:



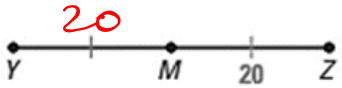
Find $\overline{FM}$ and $\overline{MG}$




$\overline{FM} = 25$

$\overline{MG} = 25$

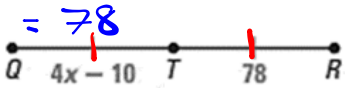
Find $\overline{YM}$ and $\overline{YZ}$




$\overline{YM} = 20$

$\therefore \overline{YZ} = 40$

T is the midpoint of $\overline{QR}$. Solve for x.




$\overline{QR} = 156$ $4x - 10 = 78$

$+10 \quad +10$

$4x = 88$

$x = 22$

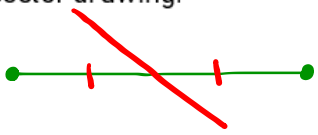
Midpoint

Learning Card # _____ | Name:

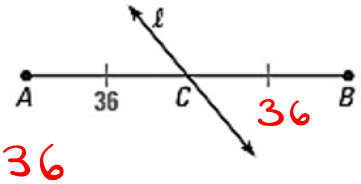
A line, line segment, or ray that divides the line segment into 2 congruent line segments.

Similar to a midpoint

Segment bisector drawing:



Solve:
Find $\overline{AB}$ and $\overline{CB}$



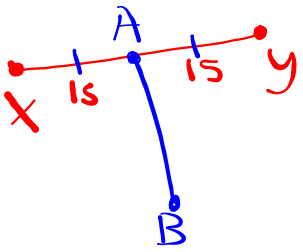

$\overline{CB} = 36$

$\overline{AB} = 72$

Draw:
$\overline{AB}$ is a segment bisector of $\overline{XY}$.

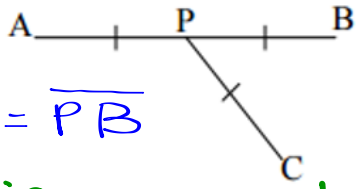
$\overline{AY} = 15$
$\overline{XY} = 4y + 10$
Solve for y.

$\overline{XY} = \overline{XA} + \overline{AY}$
$4y+10 = 15 + 15$




$4y+10 = 30$
$-10 \quad -10$
$4y = 20$
$y = 5$

Explain:
Is $\overline{PC}$ a segment bisector?



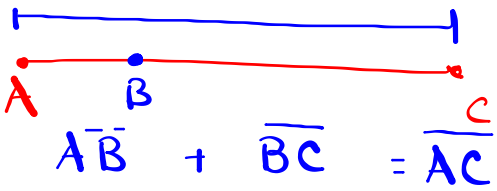

$\overline{AP} = \overline{PB}$

$\overline{PC}$ is a segment

Segment Bisector

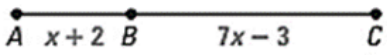
Learning Card # _____ Name:

If point B is on $\overline{AC}$, and between points A and C, then $\overline{AB} + \overline{BC} = \overline{AC}$.




$\overline{AB} + \overline{BC} = \overline{AC}$

Set up an expression for $\overline{AC}$

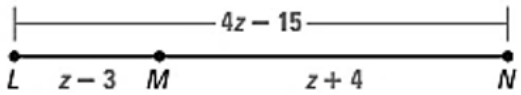



$\overline{AB} + \overline{BC} = \overline{AC}$

$x+2 + 7x-3 = \overline{AC}$

$\overline{AC} = 8x-1$

Solve for z.




$\overline{LM} + \overline{MN} = \overline{LN}$

$z-3 + z+4 = 4z-15$

$2z+1 = 4z-15$

$-2z \quad +15 \quad -2z \quad +15$

$16 = 2z$

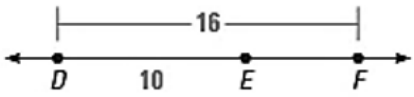
$z = 8$

$\overline{LM} = 5$

$\overline{MN} = 12$

$\overline{LN} = 17$

Solve for the missing length.




$\overline{DE} + \overline{EF} = \overline{DF}$

$10 + \overline{EF} = 16$

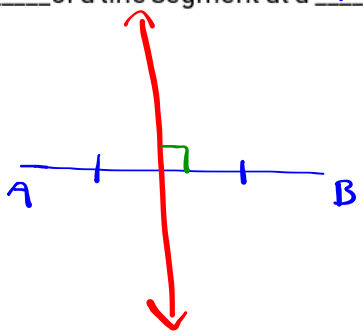
$-10 \quad -10$

$\overline{EF} = 6$

Segment Addition

Learning Card # _____ | Name:

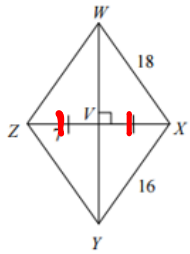
A line, line segment, or ray that intersects at the middle of a line segment at a 90° degree angle.




Is $\overline{WY}$ a perpendicular bisector? Explain.

$\angle WVX = 90°$

$\overline{ZV} = \overline{VX}$



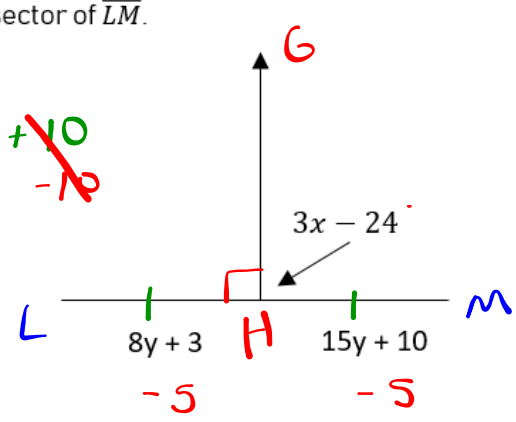

$\overline{GH}$ is the perpendicular bisector of $\overline{LM}$. Solve for x and y.

$8y + 3 = 15y + 10$

$-8y \quad -10 \quad -8y \quad -10$

$-7 = 7y$

$y = -1$




$3x - 24 = 90°$

$+24 \quad +24$

$\frac{3x}{3} = \frac{114}{3}$

$x = 38$

Perpendicular Bisector