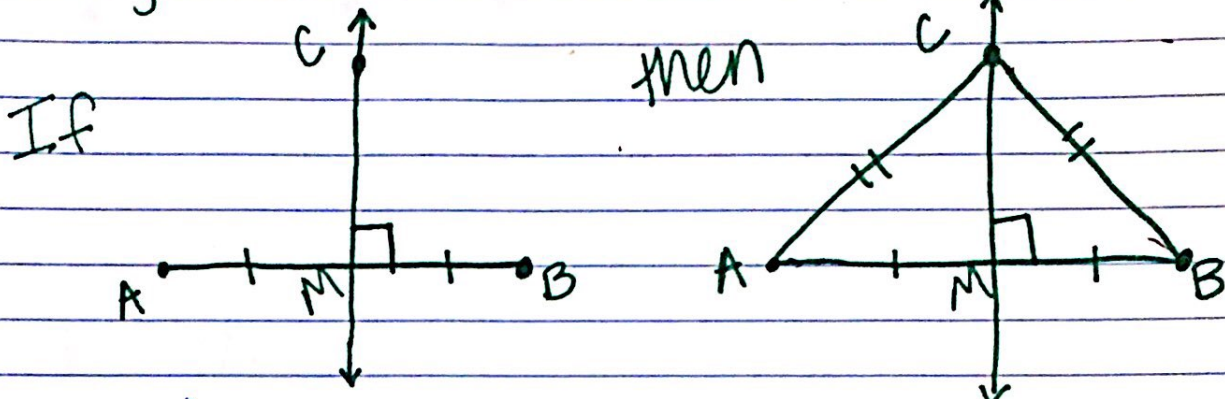


Perpendicular Bisector Theorem:

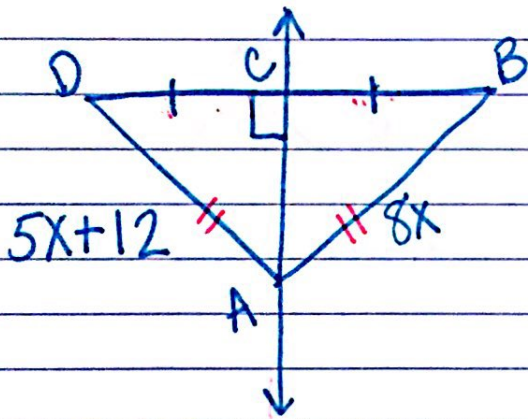
Words

If a point is on the perpendicular bisector of a segment, then it is equidistant from the endpoints of the segment.

Symbols



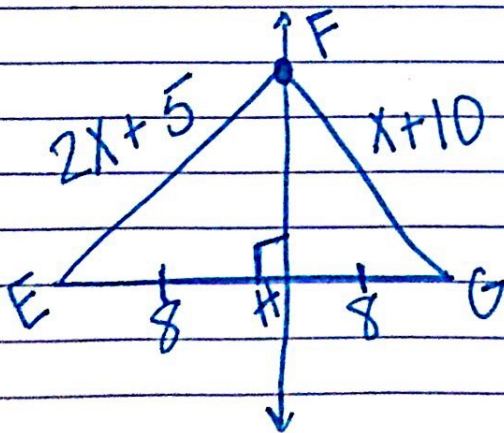
EX)



Solve for x.

$$\begin{aligned}
 5x+12 &= 8x \\
 12 &= 3x \\
 \frac{12}{3} &= \frac{3x}{3} \\
 \boxed{x=4}
 \end{aligned}$$

EX)

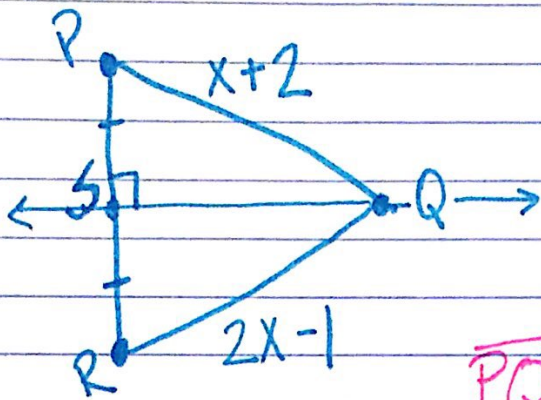


Find \overline{EF} .

$$\begin{aligned}
 2x+5 &= x+10 \\
 -x & \quad -x \\
 x+5 &= 10 \\
 \boxed{x=5}
 \end{aligned}$$

$$\begin{aligned}
 \overline{EF} &= 2(5)+5 \\
 \boxed{\overline{EF} = 15}
 \end{aligned}$$

EX) Find PQ:



$$x+2 = 2x-1$$

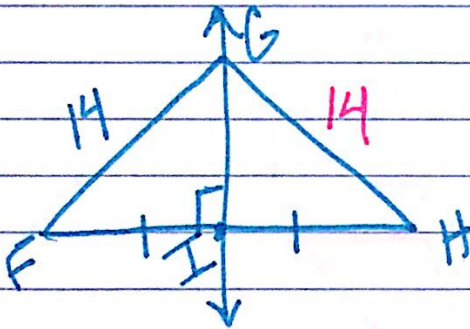
$$2 = x-1$$

$$x = 3$$

$$\overline{PQ} = 3+2$$

$$\overline{PQ} = 5$$

EX) Find GH:



$$\overline{GH} = 14$$