

Geometry HW 2-1 Ans

① $\angle 1$ and $\angle 3$ lin pair (supp)

$$12x + 38 + 12x - 2 = 180$$

$$24x + 36 = 180$$

$$24x = 144$$

$$x = 6$$

$$m\angle 6 = m\angle 3 \text{ (alt int } \angle\text{'s =)}$$

$$12(6) - 2 = 70^\circ$$

② $m\angle 4 = m\angle 8$ (corr \angle 's =)

$$6x + 2 = 8x - 20$$

$$22 = 2x$$

$$11 = x$$

$\angle 2$ & $\angle 4$ lin pair (supp)

$$6(11) + 2 = 68$$

$$180 - 68 = 112^\circ = m\angle 2$$

③ $m\angle 1 = m\angle 9$ (corr \angle 's =)

$$8x + 10 = 10x - 15$$

$$25 = 2x$$

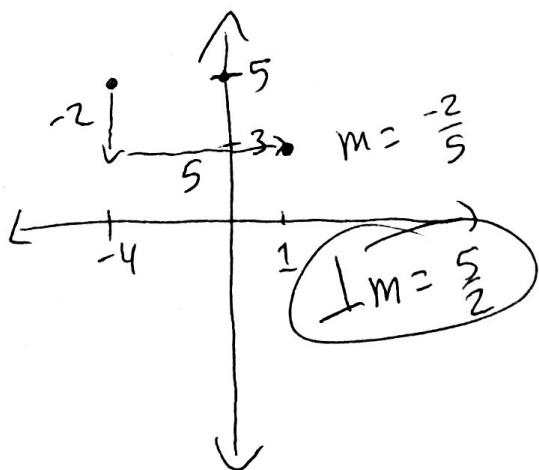
$$x = 12.5$$

$m\angle 1 = m\angle 5$ (corr \angle 's =)

$$8(12.5) + 10 = 110^\circ = m\angle 5$$

④ $m = \frac{5}{2}$

$b =$



Need midpoint to be bisector

$$-4 + 1 = -3/2 = -1.5 \rightarrow x$$

$$5 + 3 = 8/2 = 4 \rightarrow y$$

$(-1.5, 4)$ midpoint

* line goes through this

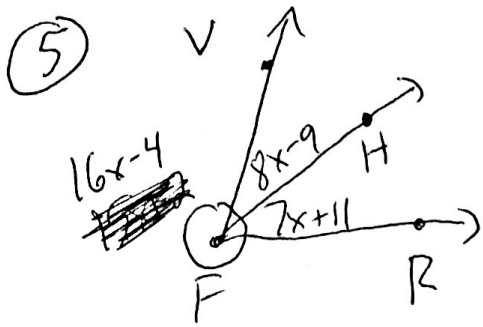
$$y = mx + b$$

$$4 = \frac{5}{2}(-1.5) + b$$

$$4 = -3.75 + b$$

$$7.75 = b$$

$$y = \frac{5}{2}x + 7.75$$



$$16(6) - 4 = 920$$

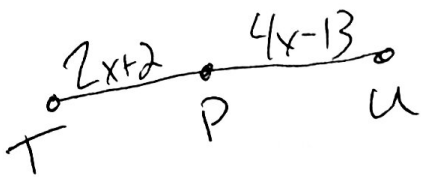
Sum of parts = whole

$$8x - 9 + 7x + 11 = 16x - 4$$

$$15x + 2 = 16x - 4$$

$$6 = x$$

⑥



$$2x + 2 = 4x - 13$$

$$15 = 2x$$

$$x = 7.5$$

TP = PU b/c mdpt creates

2 = parts

$$TU = 2 \cdot TP \text{ (TP is } \frac{1}{2} \text{ of TU)}$$

$$2(7.5) + 2 = 17$$

$$17 \cdot 2 = \boxed{34 = TU}$$

⑦

$$4x - 3y = 7$$

$$\begin{array}{r} -4x \quad -4x \\ \hline \end{array}$$

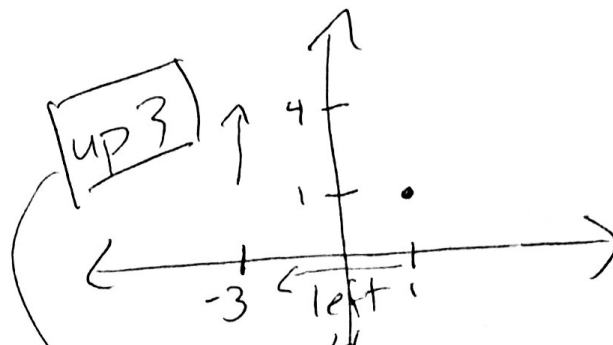
$$-3y = 7 - 4x$$

$$\frac{-3y}{-3} = \frac{7-4x}{-3}$$

$$y = -\frac{7}{3} + \frac{4}{3}x$$

$$m = \frac{4}{3}$$

$$\perp m = -\frac{3}{4}$$



right 4 down 3

or
left 4 up 3 *

$$\boxed{\begin{array}{l} x = -3 \\ (-3, 4) \end{array}}$$