

# Geometry HW 2-5 Ans

①  $14x + 12 = -2x^2$

$$\frac{2x^2}{2} + \frac{14x}{2} + \frac{12}{2} = 0$$

$$2(x^2 + 7x + 6) = 0$$

$$2(x+6)(x+1) = 0$$

$$x = -6 \quad x = -1$$

③  $\angle 2, \angle 3$  cons int / supp

$$x^2 - 24 + 10x + 33 = 180$$

$$x^2 + 10x + 9 = 180$$

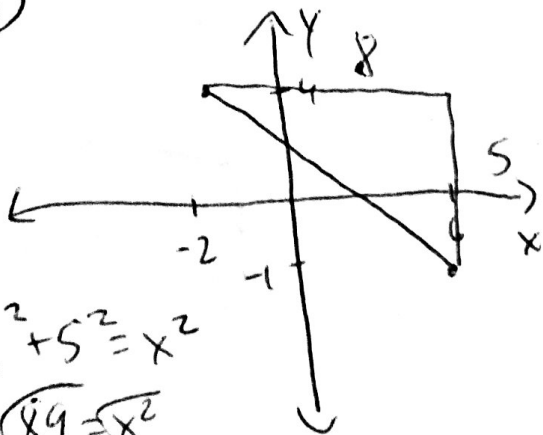
$$x^2 + 10x - 171 = 0$$

$$(x+19)(x-9) = 0$$

$$x = -19 \quad x = 9$$

gives neg L.

④



$$8^2 + 5^2 = x^2$$

$$\sqrt{89} = \sqrt{x^2}$$

$$x = \sqrt{89}$$

② bisector creates 2 = parts

$$x^2 + 3x - 2 = 8x + 4$$

$$x^2 - 5x - 6 = 0$$

$$(x-6)(x+1) = 0$$

$$x = 6 \quad x = -1$$

$$m\angle 2 = 8(6) + 4 = 52^\circ$$

$$m\angle 3 = 2(6) + 8 = 20^\circ$$

$$52^\circ + 20^\circ = 72^\circ$$

Since  $\angle 2, \angle 3$  are cons int and ~~supp~~ the lines are ~~||~~ ||

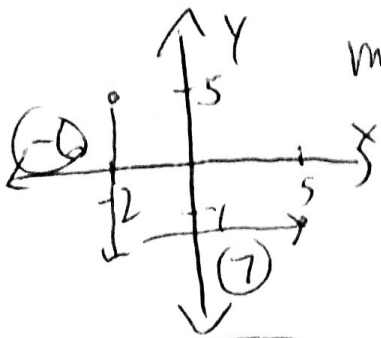
⑤

$$x+2 + 3x+9 = \frac{4x+11}{2} = 2x+5.5$$

$$z-7 + 2z-5 = \frac{3z-12}{2} = 1.5z-6$$

$$(2x+5.5, 1.5z-6)$$

⑥



$$m = \frac{-6}{7}$$

$\frac{1}{m} = \frac{7}{6}$

$11m = \frac{-6}{7}$

$$7 = \frac{-6}{7}(4) + b$$

$b = \frac{73}{7}$

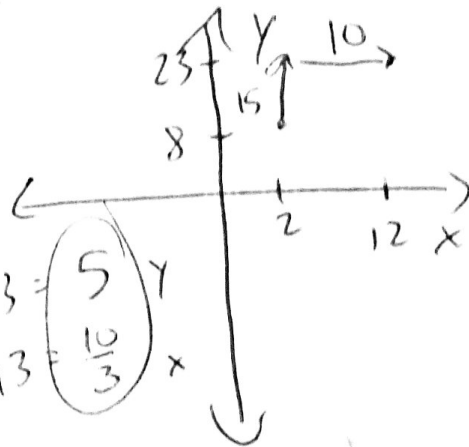
$Y = -\frac{6}{7}x + \frac{73}{7}$

⑦

2:1 → 3 parts  
divide slope by 3

since SN is 1 part  
move from it

$(12, 23) \rightarrow (\frac{26}{3}, 18)$



$$15/3 = 5$$

$$10/3 = \frac{10}{3}$$

⑧  $2x^2 + 7x - 10 = 0$

$$\frac{2x^2}{2} + \frac{7x}{2} = \frac{10}{2}$$

$$x^2 + \frac{7}{2}x + \frac{49}{16} = 5 + \frac{49}{16}$$

$$\frac{7}{2} \cdot \frac{7}{4} = \left(\frac{7}{4}\right)^2 = \frac{49}{16}$$

$\left(x + \frac{7}{4}\right)^2 = \frac{129}{16}$

$$x + \frac{7}{4} = \frac{-7}{4} \pm \sqrt{\frac{129}{16}}$$

$$x = \frac{-7}{4} \pm \sqrt{\frac{129}{16}}$$