

Geometry HW 2-6 Ans

$$(1) x^2 - 4x = 8$$

$$-\frac{4}{2} = (-2)^2 = 4$$

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

$$\sqrt{(x-2)^2} = \sqrt{12}$$

$$x-2 = \pm\sqrt{12}$$

$$x = 2 \pm \sqrt{12}$$

$$(2) 2x^2 = 5x + 3$$

$$\frac{2x^2}{2} - \frac{5x}{2} = \frac{3}{2}$$

$$x^2 - \frac{5}{2}x = 1.5$$

$$-\frac{5}{2} = \left(\frac{-5}{4}\right)^2 = \frac{25}{16}$$

$$x^2 - \frac{5}{2}x + \frac{25}{16} = 1.5 + \frac{25}{16}$$

$$\sqrt{\left(x - \frac{5}{4}\right)^2} = \sqrt{\frac{49}{16}}$$

$$x - \frac{5}{4} = \pm\frac{7}{4}$$

$$x = \frac{5}{4} \pm \frac{7}{4}$$

$$x = 3$$

$$x = -\frac{1}{2}$$

$$(3) AC = 2 \cdot AB \text{ (midpt creates 2 parts)}$$

$$\cancel{2} \cdot 2(x^2 + 12) = 14x$$

$$2x^2 + 24 = 14x$$

$$\frac{2x^2}{2} - \frac{14x}{2} + \frac{24}{2} = 0$$

$$2(x^2 - 7x + 12) = 0$$

$$2(x-3)(x-4) = 0$$

$$\underline{x=3} \quad \underline{x=4}$$

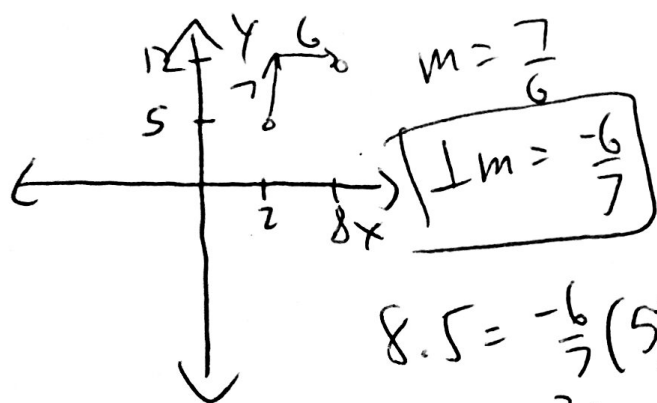
$$AB = BC$$

$$\cancel{2} \cdot 3^2 + 12 = \boxed{21}$$

or

$$4^2 + 12 = \boxed{28}$$

(4)



M.P.

$$2+8 = 10/2 = 5$$

$$5+12 = 17/2 = 8.5$$

$$(5, 8.5)$$

$$8.5 = -\frac{6}{7}(5) + b$$

$$8.5 = -\frac{30}{7} + b$$

$$\frac{179}{14} = b$$

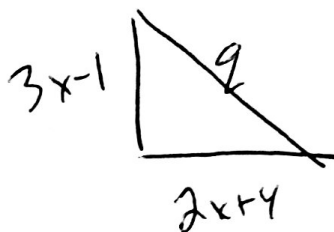
$$y = -\frac{6}{7}x + \frac{179}{14}$$

(5)

$$(2x-2, 3x+2) \xrightarrow{+3x-1} (4x+2, 6x+1)$$

$$\xrightarrow{+2x+4}$$

$$q^2 = (3x-1)^2 + (2x+4)^2$$



$$q^2 = 9x^2 - 6x + 1 + 4x^2 + 16x + 16$$

$$\sqrt{q^2} = \sqrt{13x^2 + 10x + 17}$$

$$q = \sqrt{13x^2 + 10x + 17}$$