

Directions: Identify if the set of lines are parallel, perpendicular, coincidental, or neither.

$$1) \begin{cases} y = -2x + 3 \\ y = -2x - 5 \end{cases}$$

parallel

$$2) \begin{cases} 2y - 8x = -10 \\ y = 4x - 5 \end{cases}$$

coincidental

$$3) \begin{cases} y = 4x - 3 \\ -4x - y = -3 \end{cases}$$

neither

$$4) \begin{cases} y = 0.25x \\ y = -4x - 5 \end{cases}$$

perpendicular

Directions: Write the equation of the line with the following characteristics.

5) Is parallel to the equation $y = 4x - 2$

$$y = 4x \pm \text{any } \#$$

6) Is coincidental to the equation $y = 5x$

$$y = 5x$$

7) Is perpendicular to the equation $y = 2x - 4$

$$y = -\frac{1}{2}x \pm \text{any } \#$$

8) Is parallel to $y = 4x - 2$ & has a y-int. of 3

$$y = 4x + 3$$

9) Is perpendicular to $y = -0.25x - 2$ and passes through the point (3, 4)

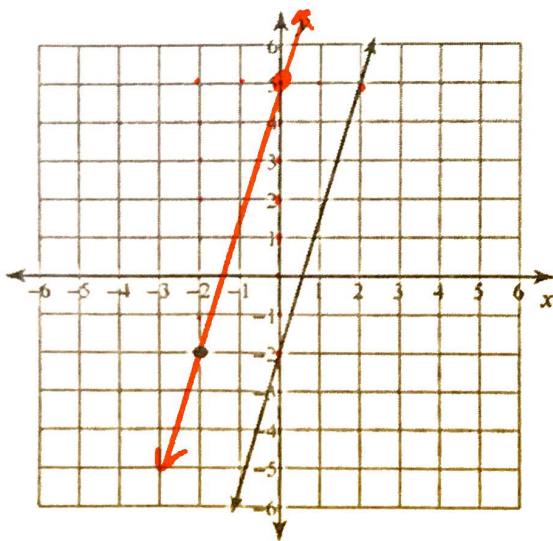
$$y = 4x - 8$$

10) Is parallel to $2x - 4y = 8$ and passes through the point (0, 6)

$$y = \frac{1}{2}x + 6$$

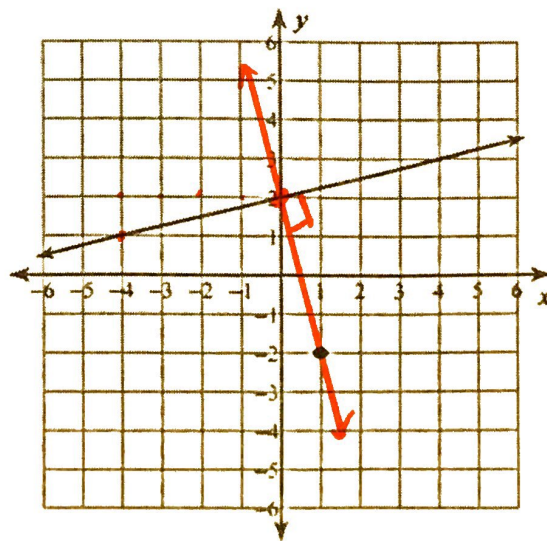
Directions: Find each equation that:

11) ...is parallel to the given line and passes through the given point.



$$y = \frac{7}{2}x + 5$$

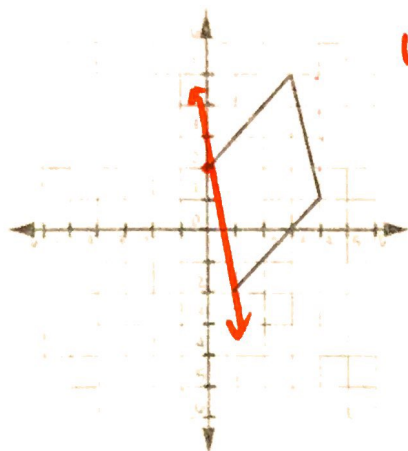
12) ...is perpendicular to the given line and passes through the given point.



$$y = -4x + 2$$

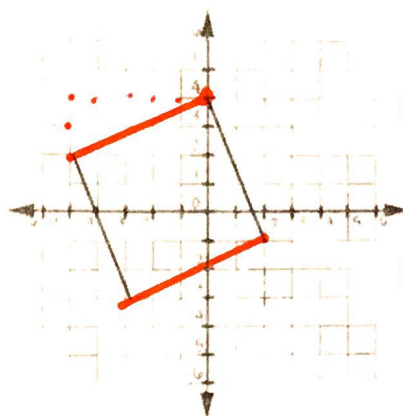
Directions: Find the equation of the line that can be used to finish creating the listed quadrilateral.

13) Parallelogram



$$y = -4x + 2$$

14) Rhombus



$$y = \frac{2}{5}x + 4$$

$$y = \frac{2}{5}x - 1.8$$

Directions: Partition each segment by the given ratio.

15) (1, 3) & (8, 4); 4:1

$$(6.6, 3.8)$$

16) (-2, 1) & (4, 5); 3:7

$$(-.2, 2.2)$$

17) (8, 0) & (3, -2); 1:4

$$(7, -.4)$$

18) (1.5, 6) & (1.5, -2); 3:5

$$(1.5, 3)$$

19) (-14, 3) & (10, -4); 1:2

$$(-6, .67)$$

20) (4, 7) & (8, 7); 2:2

$$(6, 7)$$

Directions: Find the midpoint of each segment.

21) A(3, 5) & B(-2, 6)

$$\left(\frac{1}{2}, \frac{11}{2}\right) \text{ or } (.5, 5.5)$$

22) C(0, 4) & D(5, -2)

$$\left(\frac{5}{2}, 1\right)$$

23) E(-2, -4) & F(-8, 2)

$$(-5, -1)$$

Directions: Find the missing endpoint if the midpoint is (3, 6).

24) A(5, 11)

$$(1, 1)$$

25) A(0, -4)

$$(6, 16)$$