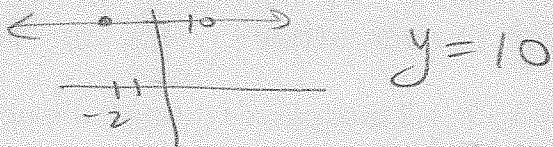
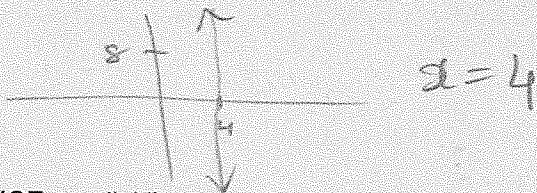


**DAY 8 - Properties of Slope**

Write the equation of the horizontal line that passes through the point  $(-2, 10)$



2. Write the equation of the vertical line that passes through the point  $(4, 8)$



PRACTICE parallel lines:

3. Write the equation of a line that is parallel to  $y = -6x + 2$  and that has a y-intercept of 6

*same slope*

$$y = -6x + 6$$

4. Write the equation of a line that is parallel to  $y = 2x + 3$  and that has a y-intercept of 12

*same*

$$y = 2x + 12$$

5. Find the equation of a line parallel to  $y = 3x + 1$  that goes through the point  $(2, 8)$

*same*

$$y = 3x + b$$

$$8 = 3(2) + b$$

$$8 = 6 + b$$

$$2 = b$$

$$\therefore y = 3x + 2$$

6. Find the equation of a line parallel to  $y = 2x + 7$  and that goes through the point  $(4, 12)$

*same*

$$y = 2x + b$$

$$12 = 2(4) + b$$

$$12 = 8 + b$$

$$4 = b$$

$$\therefore y = 2x + 4$$

PRACTICE perpendicular lines:

7. Are  $y = 3x + 7$  and  $y = 3x - 8$  perpendicular to each other? YES or **NO**

8. Are  $y = \frac{2}{3}x - 2$  and  $y = -\frac{3}{2}x + 1$  perpendicular to each other? **YES** or NO

9. Write the equation of a line that is perpendicular to  $y = -5x + 2$  that passes through the point  $(10, 6)$ ?

$$y = \frac{1}{5}x + b$$

$$6 = \frac{1}{5}(10) + b$$

$$6 = 2 + b$$

$$4 = b$$

$$\therefore y = \frac{1}{5}x + 4$$

$$m_{\perp} = \frac{1}{5}$$

10. Write the equation of a line that is perpendicular to  $y = \frac{1}{2}x - 6$  that passes through the point  $(6, 4)$

$$y = -2x + b$$

$$4 = -2(6) + b$$

$$4 = -12 + b$$

$$16 = b$$

$$\therefore y = -2x + 16$$

$$m_{\perp} = -2$$

11. Write the equation of a line that is perpendicular to  $y = -\frac{1}{8}x + 2$  that passes through the point  $(-4, 2)$ .

$$y = 8x + b$$

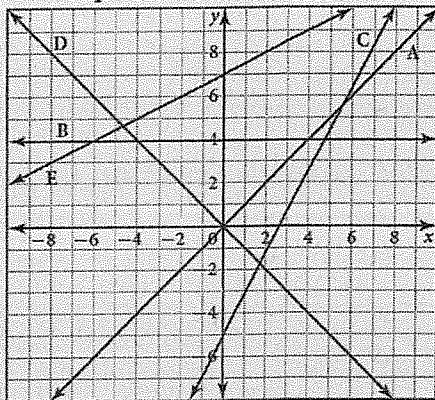
$$2 = 8(-4) + b$$

$$2 = -32 + b$$

$$34 = b$$

$$\therefore y = 8x + 34$$

12. For each line on the graph, indicate which of the equations listed below represents the line.



Match

- a)  $y = 4$  line B
- c)  $y = x$  line A
- e)  $y = 2x - 5$  line C

- b)  $y = -x$  line D
- d)  $y = \frac{1}{2}x + 7$  line E

13. Write the equation of a line that has a steeper slope than the given line.

a)  $y = 3x + 2$   
*inc rise*

b)  $y = \frac{1}{2}x$

$$y = 4x + 2$$

$$y = 2x$$

14. Write the equation of a line that is less steep than the given line.

a)  $y = -x$   
*increase run*

b)  $y = -4.5 + 2.5x$

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

$$y = -4.5 + \frac{2.5x}{2}$$