

Name: Key Day#

Quiz 2 Practice

1) Are the lines parallel? Explain.

- A. $y = \frac{1}{2}x + 5$ and $y = -2x + 2$ *No, slopes are not the same*
- B. $y = -\frac{1}{2}x + 5$ and $y = -\frac{1}{2}x + 8$ *Yes, slopes are the same, diff. y-int.*
- C. $y = -\frac{1}{2}x + 5$ and $y = -\frac{1}{2}x + 5$ *No, slopes are the same but y-int are too.*
- D. $y = 4x + 6$ and $y = 2x + 6$ *No, slopes are not the same.*

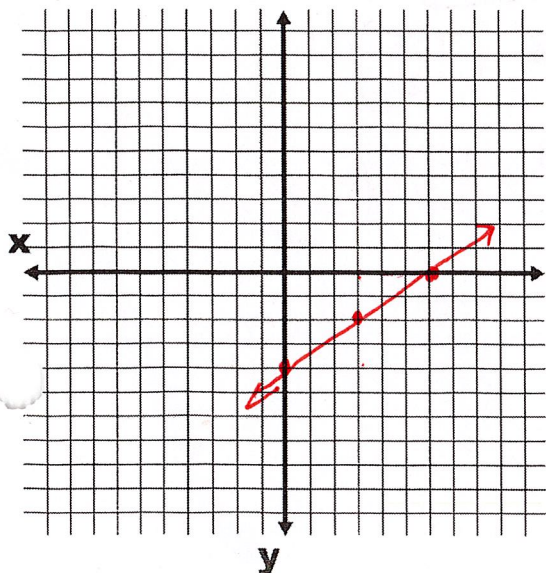
2) Are the lines perpendicular? Explain.

- A. $y = -3x - 5$ and $y = -3x + 7$ *No, slopes are not opposite reciprocals*
- B. $y = -3x - 1$ and $y = \frac{1}{3}x - 1$ *Yes, slopes are opposite reciprocals*
- C. $y = 2x + 6$ and $y = \frac{1}{2}x - 3$ *No, slopes are not opposite reciprocals!*
- D. $y = \frac{3}{4}x - 2$ and $y = -\frac{4}{3}x - 2$ *Yes, slopes are opposite reciprocals.*

3.) Write the equation for the line that is **parallel** to the given line and passes through the given point. You can graph or use an equation.

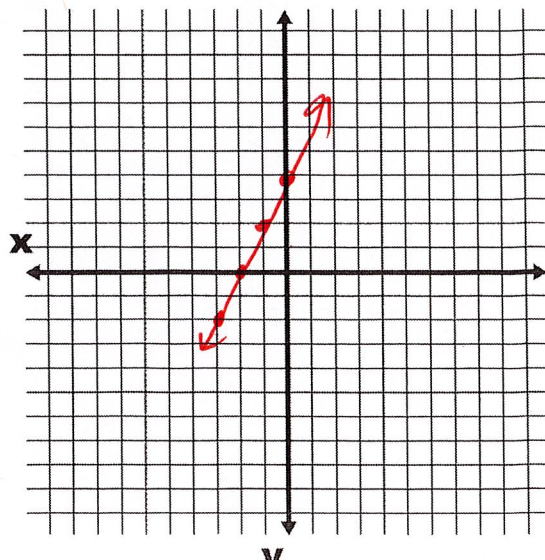
a.) $y = \frac{2}{3}x + 1; (3, -2)$

$y = \frac{2}{3}x - 4$



b.) $y = 2x + 1; (-3, -2)$

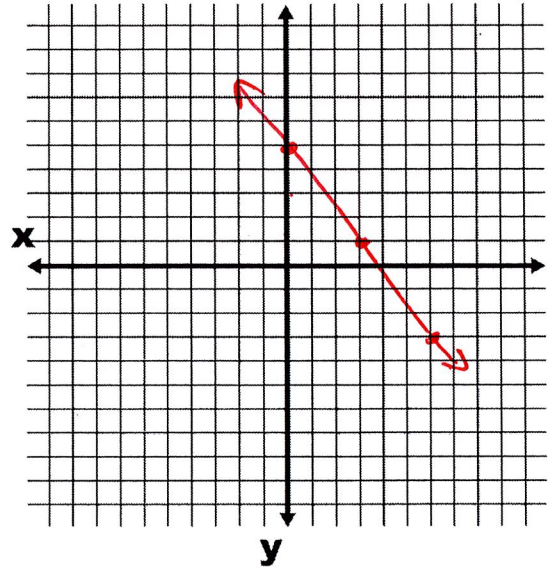
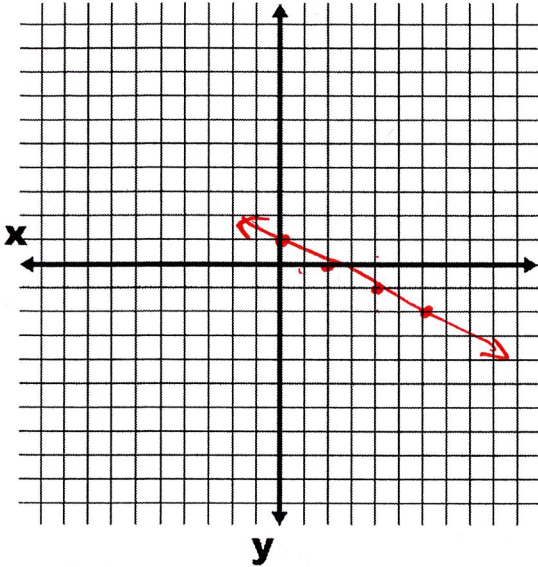
$y = 2x + 4$



4) Write an equation for the line that is **perpendicular** to the given line & passes through the given point. You can graph use an equation.

a.) $y = 2x - 3$; $(4, -1)$ $y = \frac{1}{2}x + 1$

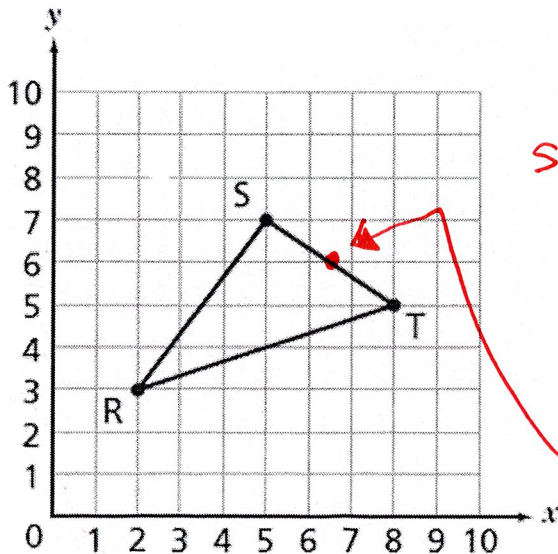
b.) $y = \frac{3}{4}x + 2$; $(3, 1)$ $y = -\frac{4}{3}x + 5$



5) Find the coordinates of the midpoint of \overline{XY} with endpoints $X(2, -5)$ and $Y(6, 1)$

$$\left(\frac{2+6}{2}, \frac{-5+1}{2} \right) \Rightarrow \left(\frac{8}{2}, \frac{-4}{2} \right) = (4, -2)$$

6.) Find the midpoint of side ST.



$$S(5, 7) \quad T(8, 5)$$

$$\left(\frac{5+8}{2}, \frac{7+5}{2} \right)$$

$$\left(\frac{13}{2}, \frac{12}{2} \right) = (6.5, 6)$$