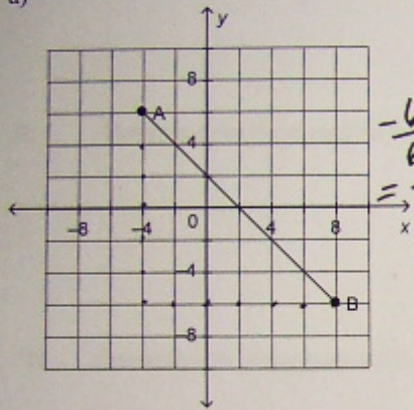


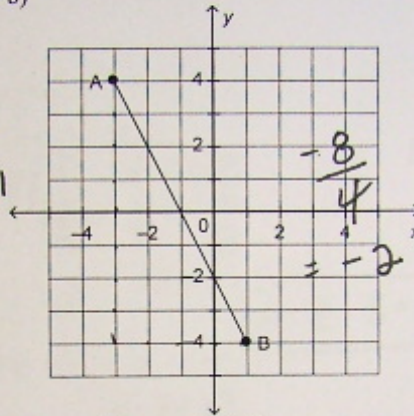
Slope Review

1. Determine the slope of this line segment.

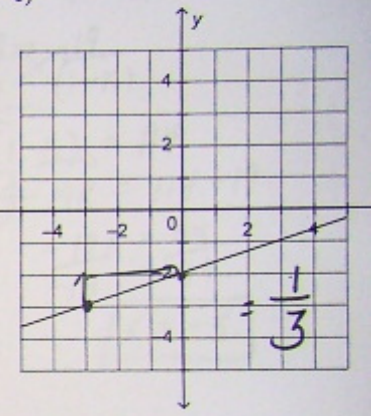
a)



b)



c)



2. Determine the slope of the line that passes through (9, 11) and (15, 27).

$$\frac{27 - 11}{15 - 9} = \frac{16 \div 2}{6 \div 2} = \frac{8}{3}$$

3. The slopes of two lines are $\frac{6}{11}$ and $-11/6$. Are the two lines parallel, perpendicular, or neither?

4. The slopes of two lines are -2 and $-1/2$. Are the two lines parallel, perpendicular, or neither?

5. Complete the chart:

Equation	Slope	y-intercept
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4. The slopes of two lines are -2 and $-1/2$. Are the two lines parallel, perpendicular, or neither?
- 5.. Complete the chart:

Equation	Slope	y-intercept
a) $y = 4x - 2$	4	-2.
b) $-y = \frac{5x - 2}{-1} \Rightarrow y = -5x + 2$	-5	2
c) $2y - 3 = 8x - 5 + 3$ $\frac{2y}{2} = \frac{8x - 2}{2}$ $y = 4x - 1$	4	-1
d) $3(y + 1) = 2x + 9$ $y = \frac{2}{3}x + 2$ $3y + 3 = 2x + 9 - 3$ $3y = 2x + 6$ $\frac{3y}{3} = \frac{2x + 6}{3}$ $y = \frac{2}{3}x + 2$	$\frac{2}{3}$	2
e) $1/2y + 2 = 2x + 1$ $y + 4 = 4x + 2 - 4$ $y = 4x - 2$	4	-2.
f) $3x + 5 = 2y - 5$ $2y - 5 = 3x + 5 + 5$ $2y = 3x + 10$ $\frac{2y}{2} = \frac{3x + 10}{2}$ $y = \frac{3}{2}x + 5$	$3/2$.	5.
g) $-5y - 1 = 10x - 20 + 1$ $-5y = 10x - 19$ $\frac{-5y}{-5} = \frac{10x - 19}{-5}$ $y = -2x - \frac{19}{5}$	-2	$-\frac{19}{5}$.

6. a) The slope parallel to the x-axis is 0/1.

6. a) The slope parallel to the x-axis is $\frac{0}{1}$.
- b) The slope perpendicular to the x-axis is $\frac{1}{0}$.
- c) The slope of a vertical line is $\frac{1}{0}$.
- d) The slope of a horizontal line is $\frac{0}{1}$.
- e) The perpendicular slope to 5 is $-\frac{1}{5}$.

7. Determine the *slope* and the *y*-intercept for the graph of this equation (

$$y = -2x - \frac{19}{5}$$

- a) The slope parallel to the x-axis is $\frac{0}{1}$.
- b) The slope perpendicular to the x-axis is $\frac{1}{0}$.
- c) The slope of a vertical line is $\frac{1}{0}$.
- d) The slope of a horizontal line is $\frac{0}{1}$.
- e) The perpendicular slope to 5 is $-\frac{1}{5}$.

Determine the *slope* and the *y*-intercept for the graph of this equation $(16x + 32) - 2y = 0$ ($y = mx + b$)

$$\begin{aligned} -2y &= -16x - 32 \\ \frac{-2y}{-2} &= \frac{-16x}{-2} - \frac{32}{-2} \\ y &= 8x + 16 \\ m &= 8 \quad b = 16 \end{aligned}$$

Find the value of K. (x_1, y_1) and (x_2, y_2) . $(K, -7)$ and $(1, 12)$ $m = 19/6$.

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$\frac{19}{6} = \frac{12 - (-7)}{1 - K}$$

$$\frac{19}{6} = \frac{19}{1 - K}$$

$$19(1 - K) = 114$$

$$19 - 19K = 114 - 19$$

$$-19K = 95$$

$$K = -5$$

9. Determine the slope parallel to $3(2y - 1) = 12x + 3$

$$6y - 3 = 12x + 3 + 3$$

$$\frac{6y}{6} = \frac{12x + 6}{6}$$

$$y = 2x + 1$$

$$m = 2 \quad b = 1$$

10. Determine the slope perpendicular to $3y - 4 = 8x + 5 + 4$

$$\frac{3y}{3} = \frac{8x + 9}{3}$$

$$y = \frac{8}{3}x + 3$$

$$m = \frac{8}{3} \quad b = 3$$

$$\text{Per} = -$$

$$b = 3$$

11. A line passes through points (x_1, y_1) and (x_2, y_2) . $(4, 8f)$ and $(2f, -2)$. If the slope is parallel to the y-axis, find f.

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$\frac{1}{0} = \frac{-2 - 8f}{2f - 4}$$

$$m = \frac{1}{0}$$

10. Determine the slope perpendicular to $3y - 4 = 8x + 5 + 4$ $m = 2$ $0 - 1$ $K = -5$

$$\frac{3y}{3} = \frac{8x + 9}{3}$$

$$y = \frac{8}{3}x + 3$$

$m = \frac{8}{3}$ $b = 3$

Per = $-\frac{3}{8}$
 $b = 3$

11. A line passes through points $(4, 8f)$ and $(2f, -2)$. If the slope is parallel to the y-axis, find f.

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$\frac{1}{0} = \frac{-2 - 8f}{2f - 4}$$

$$1(2f - 4) = 0$$

$$2f - 4 = 0 + 4$$

$$2f = \frac{4}{2}$$

$f = 2$

$$m = \frac{1}{0}$$

12. A line passes through points $(-3k, 2)$ and $(8, k)$. If the slope is parallel to the x-axis, find k.

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$\frac{0}{1} = \frac{k - 2}{8 - (-3k)}$$

$$1(k - 2) = 0$$

$$k - 2 = 0 + 2$$

$k = 2$

$$m = \frac{0}{1}$$

13. A line passes through points $(5, 6k)$ and $(-3, 4k)$. If the slope is perpendicular to $1/3$, find k.

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$\frac{-3}{1} = \frac{4k - 6k}{-3 - 5}$$

$$-3 = -2k$$

$m = \frac{-3}{1}$

13. A line passes through points $(5, 6k)$ and $(-3, 4k)$. If the slope is perpendicular to $1/3$, find k .

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$\frac{-3}{1} = \frac{4k - 6k}{-3 - 5}$$

$$\frac{-3}{1} = \frac{-2k}{-8}$$

$$m = \frac{-3}{1}$$

14. A line passes through $R(6, 9)$ and $K(-6, 15)$.

- a) What is the slope of line RK ?
 b) What is the parallel slope?
 c) What is the perpendicular slope?

$$\frac{-2k}{-2} = \frac{24}{-2}$$

$$k = -12$$

a) $(6, 9)$ $(-6, 15)$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{15 - 9}{-6 - 6}$$

$$m = \frac{6}{-12} \quad m = -\frac{1}{2}$$

b) $= -\frac{1}{2}$

c) $= 2$

15. Find the slope perpendicular to $(5, 4)$ and $(-9, 5)$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{5 - 4}{-9 - 5}$$

$$m = \frac{1}{-14}$$