

1. Determine the equation of a horizontal line that goes through (1, -3) and state its slope.

$y = -3$

2. Determine the equation of a vertical line that goes through (1, -3) and state its slope.

$x = 1$

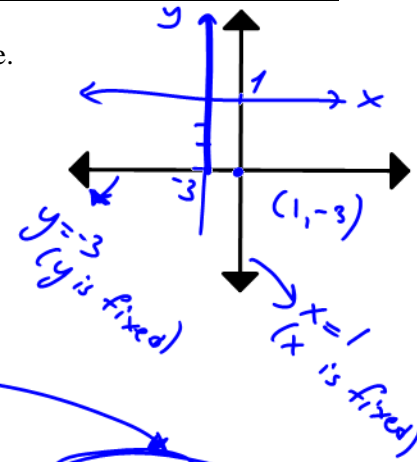
3. The slope of line $x = -3$ is undefined



4. The slope of line $y = -4$ is zero

a) True

b) False



5. The line perpendicular to $y = 2x - 1$ is:

$m_A = 2$ $m_B = -1/2$

a) $y = -2x - 1$

b) $y = \frac{1}{2}x - 6$

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

d) $y = -2x + 6$

e) $y = \frac{1}{6} - \frac{x}{2}$

6. The line perpendicular to line $y = -4$ is:

$m_A = 0$ $m_B = \text{error}$

a) $y = 4$

b) $y = 1/4$

c) $x = 0$

d) $y = x$

e) $x = -1/2$

$m = \text{error}$

$m = \text{error}$

7. **Identify** whether each of the following pairs of lines are parallel (\parallel), perpendicular (\perp), or neither (N). [K4]

a) $y = -x + 8$; $y = 4 - x$

\parallel

b) $y = \frac{1}{4}x$; $y = 4x$

N

c) $y = x$; $y = -x$

\perp

d) $y = 0$; $x = 0$

\perp

8. **Solve** the system below using ONLY the intercepts. [Solve = State POI in a therefore statement]

(A) $3x - 2y + 12 = 0$

(B) $x - 2y - 4 = 0$

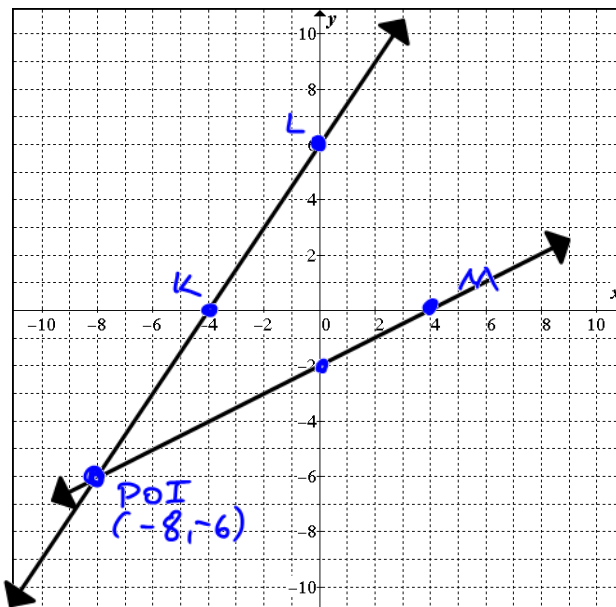
x-int $(x, 0)$
 $3x - 2(0) + 12 = 0$
 $3x = -12$
 $x = -4$
 x-int $(-4, 0)$

y-int $(0, y)$
 $3(0) - 2y + 12 = 0$
 $-2y = -12$
 $y = 6$

y-int $(0, 6)$

x-int $M(x, 0)$
 $x - 2(0) - 4 = 0$
 $x = 4$
 $M(4, 0)$

y-int $N(0, y)$
 $0 - 2y - 4 = 0$
 $-2y = 4$
 $y = -2$
 $N(0, -2)$



\therefore The POI is $(-8, -6)$

7. Determine the **slope** and **y-intercept** of the line given below. [Rearrange the given equation into $y=mx+b$]

$$-4x + 2y - 16 = 0$$

$$+4x \qquad +4x$$

$$2y - 16 = 4x$$

$$+16 \qquad +16$$

$$\underline{2y} = \underline{4x} + \underline{16}$$

$$y = 2x + 8$$

\therefore The slope is 2 and y-int is 8.

8. Fill in the blanks in the table below:

Equation	b	m	Slope of a line perpendicular
$y = -\frac{4}{5}x - \frac{7}{9}$	$-\frac{7}{9}$	$-\frac{4}{5}$	$\frac{5}{4}$
$y = 0x + 6 \Rightarrow y = 6$	6	0	undefined
$y = -2$	-2	0	undefined
$y = \frac{1}{4}x - 3$	-3	$-\frac{1}{4}$	4
$x = 5$	N/A	undefined	0

9. Aurora High School is having a fall dance. Last year, 190 students attended and the total cost was \$1250. Two years ago 175 people attended and the total cost was \$1175. **TWO POINTS**

a) Determine the cost of a ticket.

$$m = \frac{1175 - 1250}{175 - 190}$$

$$= \frac{-75}{-15}$$

$$m = \$5/\text{person}$$

\therefore Cost of a ticket is \$5.

$(190, 1250)$ $(175, 1175)$

b) Determine the fixed cost of running the dance.

$$y = mx + b \quad m = 5 \quad (175, 1175)$$

$$1175 = 5(175) + b$$

$$1175 = 875 + b$$

$$300 = b$$

\therefore The fixed cost is \$300.

c) Determine the equation modelling this situation. Use variables C and n.

$$C = 5n + 300$$

d) If 225 people attend this year's dance, what would be the total cost?

$$C = 5(225) + 300$$

$$= 1425$$

\therefore The total cost would be \$1425.

COMPLETE