

6.5-6.6 Review

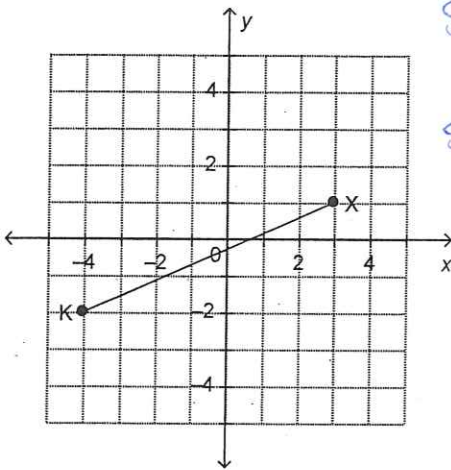
1. Describe the graph of the equation $y - 3 = \frac{2}{3}(x - 5)$

A line with a slope of $\frac{2}{3}$ that passes through (5, 3).

2. A line has a slope of $-\frac{3}{4}$ and passes through the point $(-2, 6)$. Write its equation in slope-point form.

$$y - 6 = -\frac{3}{4}(x + 2)$$

3. Write the equation of the line shown below in slope-point form, then convert the equation to slope-intercept form.



slope = $\frac{3}{7}$ point: (3, 1)

slope-point: $y - 1 = \frac{3}{7}(x - 1)$

$$y - 1 = \frac{3}{7}x - \frac{3}{7}$$

$$y = \frac{3}{7}x - \frac{3}{7} + 1$$

$$y = \underline{\underline{\frac{3}{7}x + \frac{4}{7}}}$$

4. Line AB is represented by the equation $y = 2x + 5$.

- a) Write the equation of a line that is parallel to AB and passes through the point $(1, -3)$. Answer in slope-point form.

slope = 2

$$y + 3 = 2(x - 1)$$

- b) Write the equation of a line that is perpendicular to AB and passes through the point $(1, -3)$. Answer in slope-point form.

slope = $-\frac{1}{2}$

$$y + 3 = -\frac{1}{2}(x - 1)$$

5. Identify the form each equation is in, then change to general form.

standard
 a) $5x - 2y = 10$
 $5x - 2y - 10 = 0$

slope-point
 b) $y + 1 = \frac{2}{5}(x - 3)$
 $5y + 5 = 2x - 6$
 $0 = 2x - 5y - 11$
 $2x - 5y - 11 = 0$

slope-intercept
 c) $y = \frac{3}{4}x - 2$
 $4y = 3x - 8$
 $0 = 3x - 4y - 8$
 $3x - 4y - 8 = 0$

6. Determine the slope of the line with this equation: $3x - 2y + 8 = 0$

$3x + 8 = 2y$
 $\frac{3x + 8}{2} = y$
 $y = \frac{3}{2}x + 4$ slope = $\frac{3}{2}$

7. Calculate the x and y-intercepts, then graph the line $2x - 3y + 12 = 0$

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

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

