Math 10 Name: Key.

6.5-6.6 Review

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

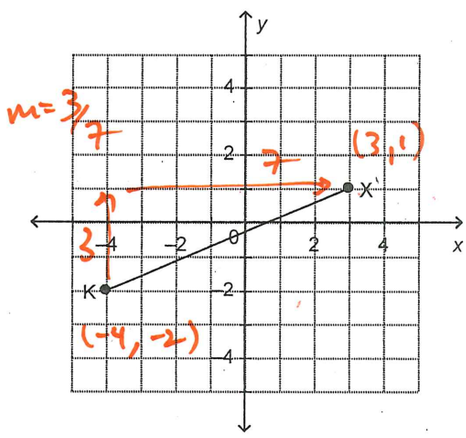
$m=\frac{2}{3}$ thru point $(5,3)$

2. A line has a slope of -3/4 and passes through the point (-2, 6). Write its equation in slope-point form. (Type H)

$y-y_1=m(x-x_1)$

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

3. Write the equation of the line shown below in slope-point form, then convert the equation to slope-intercept form. (Type H/J)



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

$y-1=\frac{3}{7}x-\frac{9}{7}$

$+1 \quad +1$

$y=\frac{3}{7}x-\frac{2}{7}$

$y+2=\frac{3}{7}(x+4)$

$y+2=\frac{3}{7}x+\frac{12}{7}$

$-2 \quad -2$

$y=\frac{3}{7}x-\frac{2}{7}$

y= $y=\frac{3}{7}x-\frac{2}{7}$

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

$m_{\parallel}=2$

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

$x_1 \; y_1$

$y-y_1=m(x-x_1)$

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

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

$m_{\perp}=-\frac{1}{2}$

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

5. Determine the equation of a line that passes through the points (-3, 4) and (1, 5)

$x_2 \; y_2 \quad x_1 \; y_1$

a) in slope-point form. (Type H)

$y-4=\frac{1}{4}(x+3)$ OR $y-5=\frac{1}{4}(x-1)$

$m=\frac{y_2-y_1}{x_2-x_1}=\frac{4-5}{-3-1}$

$=\frac{-1}{-4}$

$=\frac{1}{4}$

b) in slope-intercept form. (Type J)

$y-4=\frac{1}{4}(x+3)$

$y-4=\frac{1}{4}x+\frac{3}{4}$

$+4 \quad +4$

$y=\frac{1}{4}x+\frac{19}{4}$

6. Identify the form each equation is in, then change to general form. (Types I/J)

Standard a) $5x - 2y = 10$

$-10 \quad -10$

$\boxed{5x - 2y - 10 = 0}$

Point-Slope b) $5x(y+1) = \frac{2}{5}(x-3)$ $\times 5$

$5y + 5 = 2(x-3)$

$5y + 5 = 2x - 6$

$-5y - 5 \quad -5y - 5$

$\boxed{0 = 2x - 5y - 11}$

slope-intercept c) $4(y) = \left(\frac{3}{4}x - 2\right)4$

$4y = 3x - 8$

$-4y \quad -4y$

$\boxed{0 = 3x - 4y - 8}$

7. Determine the slope of the line with this equation: $3x - 2y + 8 = 0$. (Type J)

$+2y \quad +2y$

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

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

$\boxed{m = 3/2}$

8. Calculate the x and y-intercepts, then graph the line $2x - 3y + 12 = 0$. (Type K)

x-int @ $(x, 0)$

$2x - 3y + 12 = 0$

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

$2x + 12 = 0$

$-12 \quad -12$

$\frac{2x}{2} = \frac{-12}{2}$

$x = -6$

x-int @ $(-6, 0)$

y-int @ $(0, y)$

$2x - 3y + 12 = 0$

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

$-3y + 12 = 0$

$-12 \quad -12$

$\frac{-3y}{-3} = \frac{-12}{-3}$

$y = 4$

y-int @ $(0, 4)$