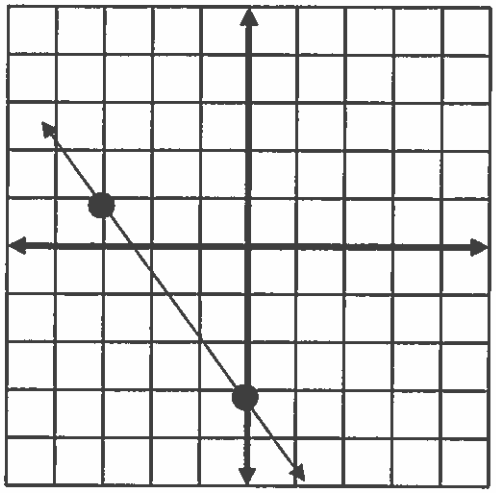
Algebra II Name KEY

Section 1-4 Writing linear equations Skills Review

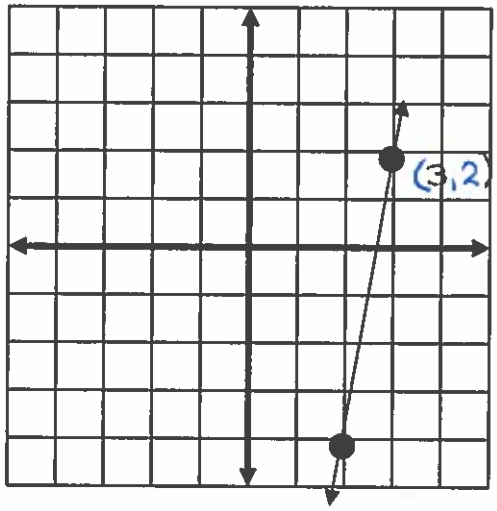
Write an equation in slope-intercept form for each graph.

1)



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

2)



y = $6x - 16$

$y = 6x + b$
$2 = 6(3) + b$
$2 = 18 + b$
$-16 = b$

Write an equation in slope-intercept form for the line described.

3) slope 3, passes through (1, -3)

$y = 3x + b$
$-3 = 3(1) + b$
$-3 = 3 + b$
$-6 = b$

$y = 3x - 6$

4) slope $-\frac{2}{3}$, passes through (6, -8)

$y = -\frac{2}{3}x + b$
$-8 = -\frac{2}{3}(6) + b$
$-8 = -4 + b$
$-4 = b$

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

5) passes through (-2, -4) & (1, 8)

$m = \frac{8-(-4)}{1-(-2)}$
$= \frac{12}{3}$
$= 4$

$y = 4x + b$
$8 = 4(1) + b$
$8 = 4 + b$
$4 = b$

$y = 4x + 4$

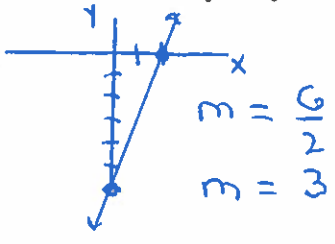
6) passes through (3, 11) & (-6, 5)

$m = \frac{5-11}{-6-3}$
$= \frac{-6}{-9}$
$= \frac{2}{3}$

$y = \frac{2}{3}x + b$
$11 = \frac{2}{3}(3) + b$
$11 = 2 + b$
$9 = b$

$y = \frac{2}{3}x + 9$

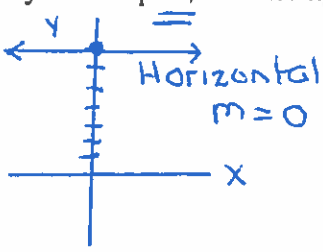
7) x-intercept 2, y-intercept -6



$m = \frac{6}{2}$
$m = 3$

$y = 3x - 6$

8) y-intercept 7, with no x-intercept



$y = 0x + 7$
or
$y = 7$

9) passes through (-4, 2), parallel to the line whose equation is $y = \frac{1}{2}x + 5$.

$m = \frac{1}{2}$ $\quad y = \frac{1}{2}x + b$

$2 = \frac{1}{2}(-4) + b$

$2 = -2 + b$

$4 = b$

$y = \frac{1}{2}x + 4$

10) passes through (3, 1), perpendicular to the line whose equation is $y = \frac{-3}{1}x + 2$.

$\perp m = \frac{1}{3}$ $\quad y = \frac{1}{3}x + b$

$1 = \frac{1}{3}(3) + b$

$1 = 1 + b$

$b = 0$

$y = \frac{1}{3}x + 0$

11) passes through (1, -1), parallel to the line that passes through (4, 1) & (2, -3).

$m = \frac{-3-1}{2-4}$

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

$= 2$

$m = 2$ $\quad y = 2x + b$

$-1 = 2(1) + b$

$-1 = 2 + b$

$-3 = b$

$y = 2x - 3$

12) passes through (8, -6), perpendicular to the graph of $2x - y = 4$.

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

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

$-6 = -\frac{1}{2}(8) + b$

$-6 = -4 + b$

$-2 = b$

$-y = -2x + 4$

$y = 2x - 4$

$m = 2$

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

13) passes through (2, -2), perpendicular to the graph of $x + 5y = 6$.

$\perp = 5$

$y = 5x + b$

$-2 = 5(2) + b$

$-2 = 10 + b$

$-12 = b$

$5y = -x + 6$

$y = -\frac{x}{5} + \frac{6}{5}$

$m = -\frac{1}{5}$

$y = 5x - 12$

14) passes through (6, 1), parallel to the line with x-intercept -3 and y-intercept 5.

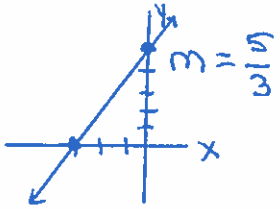
$m = \frac{5}{3}$

$y = \frac{5}{3}x + b$

$1 = \frac{5}{3}(6) + b$

$1 = 10 + b$

$-9 = b$



$y = \frac{5}{3}x - 9$