Warm up

1. Determine the equation of a line with a y-intercept of 5 and a slope of 2/3? **(Slope Intercept Form)**
2. Determine the equation of a line with a slope of 4 and passing through the point (-3, 5). **(General Form)**
3. Determine the equation of a vertical line passing through the point (-3, 5). **(Slope Point Form)**
4. Determine the equation of a line passing through the points (5, -2) and (2, 8). **(General Form)**

1. Determine the equation of a line with a y-intercept of 5 and a slope of 2/3? **(Slope Intercept Form)**

$y = mx + b$

m: Slope, b: y-int

$y = \frac{2}{3}x + 5$

2. Determine the equation of a line with a slope of 4 and passing through the point (-3, 5).
(General Form)

$y - y_1 = m(x - x_1)$ $\quad m = 4 \quad (-3, 5)$ (x_1 y_1)

$y - 5 = 4(x + 3)$

$y - 5 = 4x + 12$

$0 = 4x - y + 12 + 5$

$0 = 4x - y + 17$

$4x - y + 17 = 0$

$ax + by + c = 0$

3. Determine the equation of a vertical line passing through the point (-3, 5). **(Slope Point Form)**

$y - y_1 = m(x - x_1)$ $m = \frac{1}{0}$ (x_1, y_1) $(-3, 5)$

$y - 5 = \frac{1}{0}(x + 3)$

4. Determine the equation of a line passing through the points (5, -2) and (2, 8). **(General Form)**

(x_1, y_1) (x_2, y_2)

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

$$m = \frac{8 + 2}{2 - 5}$$

$$m = \frac{10}{-3}$$

Slope $(m) = \frac{10}{-3}$ $\frac{-10}{3}$ Point (x_1, y_1) $(2, 8)$

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

$$y - 8 = \frac{-10}{3}(x - 2)$$

$$3y - 24 = -10(x - 2)$$

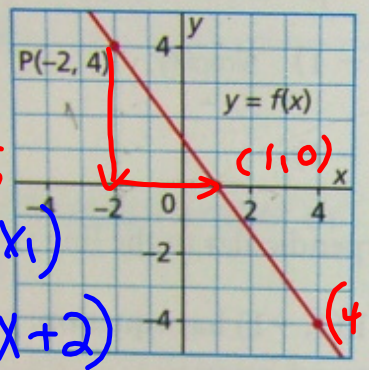
$$3y - 24 = -10x + 20$$

$$10x + 3y - 24 - 20 = 0$$

$$10x + 3y - 44 = 0$$

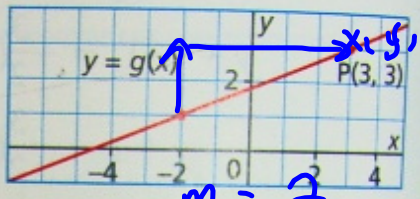
9. a) For each line, write an equation in slope-point form.

i)



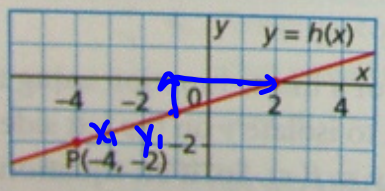
x_1, y_1
$(-2, 4)$
$m = -\frac{4}{3}$
$(1, 0)$
$(4, -4)$
$y - y_1 = m(x - x_1)$
$y - 4 = -\frac{4}{3}(x + 2)$

ii)



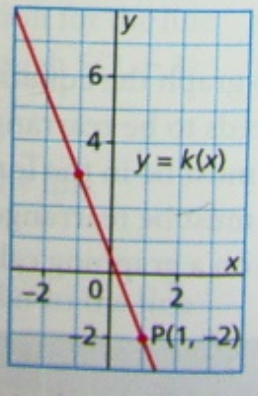
x_1, y_1
$m = \frac{2}{5}$
$y - 3 = \frac{2}{5}(x - 3)$

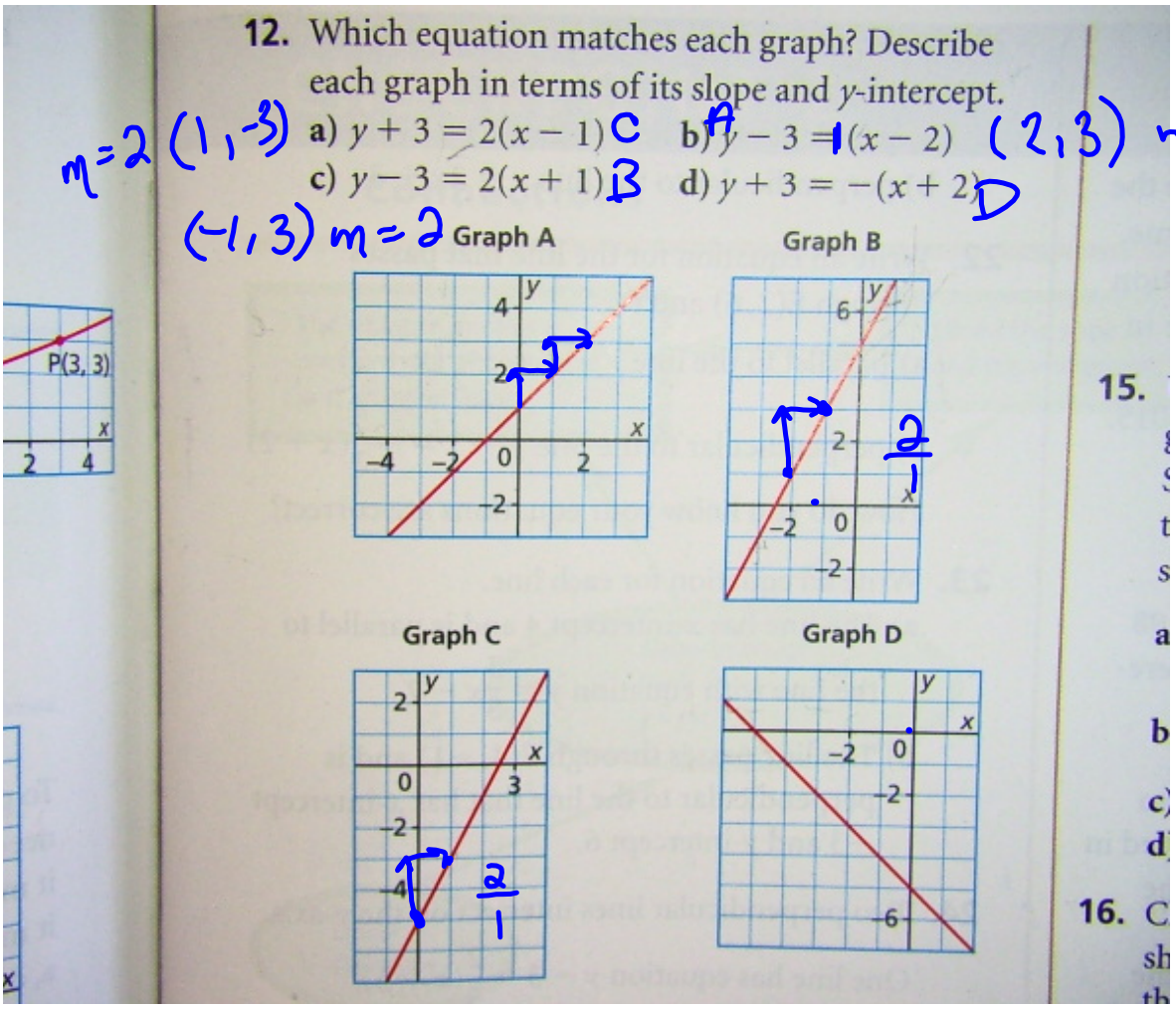
iii)



x_1, y_1
$y - y_1 = m(x - x_1)$ $m = \frac{1}{3}$
$y + 2 = \frac{1}{3}(x + 4)$

iv)




12. Which equation matches each graph? Describe each graph in terms of its slope and y-intercept.
a) $y + 3 = 2(x - 1)$ C
b) $y - 3 = 1(x - 2)$ A
c) $y - 3 = 2(x + 1)$ B
d) $y + 3 = -(x + 2)$ D
m=2 (1,-3)
(-1,3) m=2
(2,3) m=1
Graph A
Graph B
Graph C
Graph D
P(3, 3)
15.
16.

Attachments

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