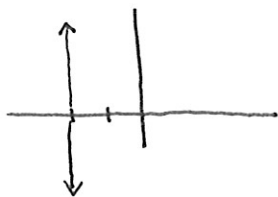


Questions 2-5: match the statement to graphs (a)-(f). see page 41-42

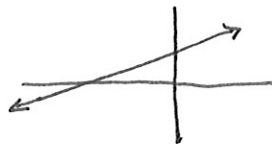
2. The slope of the line is undef.

(c)



3. $m > 0$ and $b > 0$

(a)



4. $m > 0$ and $b < 0$

(d)



5. $m < 0$ & x-int is negative

(f)



18. $2x + 3y = 4$

a) Is m positive or negative?

$$3y = -2x + 4$$

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

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

negative

b) as $x \uparrow$, does $y \uparrow$ or $\downarrow$?

y decreases



c) if x decreases by 2, how does y change?

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

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

$$= \underbrace{-\frac{2}{3}x + \frac{4}{3}}_{\text{old } y} + \frac{4}{3}$$

y increases by $\frac{4}{3}$

28. $(2, 4)$, $m = -1$

$$y - y_1 = m(x - x_1) \text{ OR } y = mx + b$$

$$y - 4 = -1 \cdot (x - 2)$$

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

$$y = -x + 6$$

42. $3x - 4y + 8 = 0$

$$3x + 8 = 4y$$

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

$$b = 2$$

Slope is $\frac{3}{4}$

y-int is ~~(0, 2)~~ (0, 2)

46. Find equation of the line which passes thru $(2, 4)$ and is perpendicular to $3x + 4y - 22 = 0$.

$$3x + 4y - 22 = 0 \Rightarrow 4y = -3x + 22$$

$$y = -\frac{3}{4}x + \frac{22}{4}$$

so, $m = \frac{4}{3}$

$$y = mx + b$$

$$4 = \frac{4}{3}(2) + b \Rightarrow 4 - \frac{8}{3} = b$$

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

49. Find equation of the line passing thru (a, b) with a slope of zero.

$$y = b$$

b/c $y = mx + b$

$$b = 0 \cdot a + b$$

55. graph $3x - 2y + 6 = 0$, using the x & y intercepts

x-int: when $y = 0$

$$3x + 6 = 0$$

$$x = -2$$

y-int: when $x = 0$

$$-2y + 6 = 0$$

$$y = 3$$

