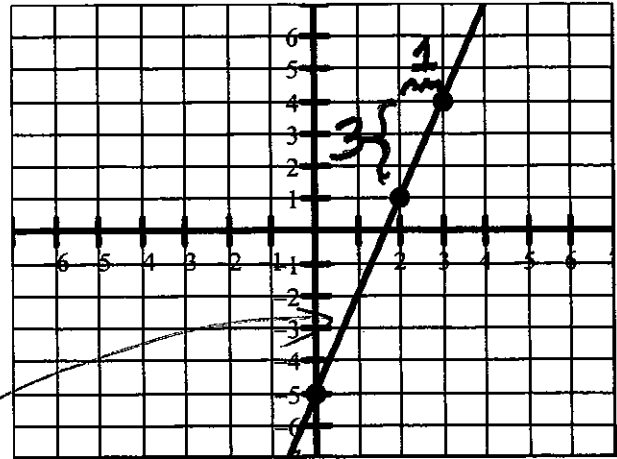
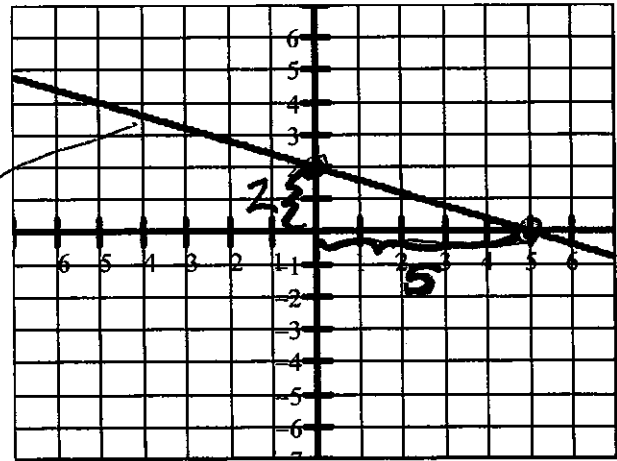


Find the slope of the following lines.

1. $m = \frac{3}{1}$

positive
slope

2. $m = \frac{-2}{5}$

negative
slope

3. Use the
- slope formula
- to find the slope of the line passing through the two points:

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

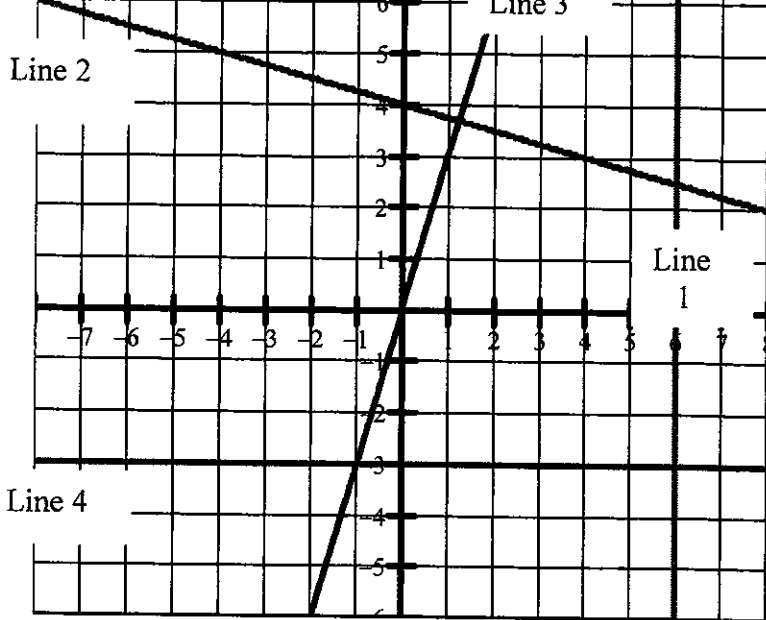
- a.
- $(-2, -3)$
- and
- $(2, 7)$

$$m = \frac{7 - (-3)}{2 - (-2)} = \frac{10}{4} = \frac{5}{2}$$

- b.
- $(4, 2)$
- and
- $(4, -8)$

$$m = \frac{-8 - 2}{4 - 4} = \frac{-10}{0} = \text{undefined (vertical line)}$$

- a. a positive slope? *line 3*
 b. a negative slope? *line 2*
 c. zero slope? *line 4*
 d. undefined slope? *line 1*



5. Find the equation of the straight line containing the given point with the slope as described. Write the answer in the slope-intercept form. ($y = mx + b$).

a. $(-6, 3), m = -\frac{2}{3}$

Use

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

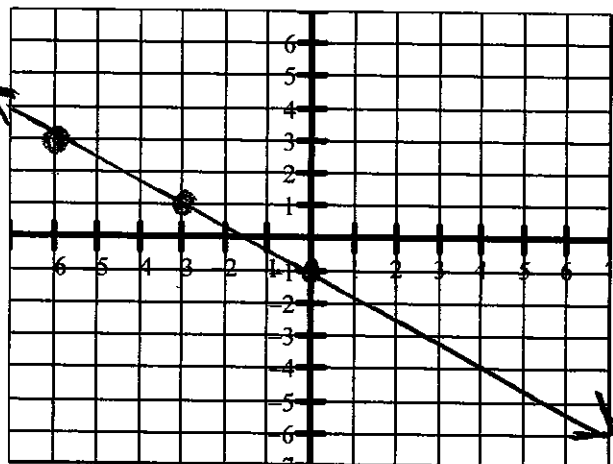
$$y - 3 = -\frac{2}{3}(x - 6)$$

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

- b. Draw the line.

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

$$\frac{2}{3} \cdot 6 = 4$$



6. Find the equation of the line passing through the two points $(0, -4)$ and $(1, 1)$. Write the answer in the slope-intercept form ($y = mx + b$).

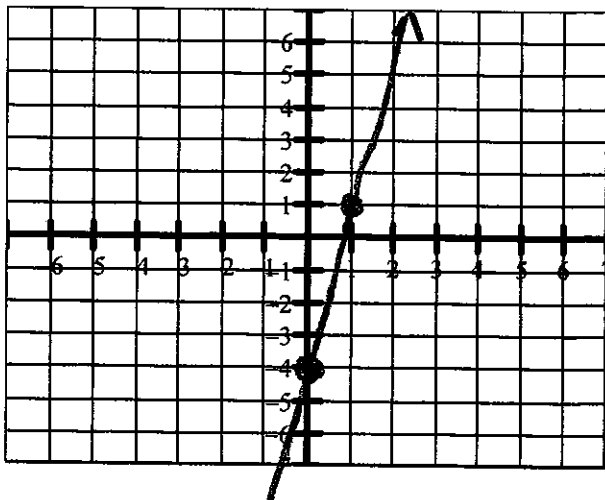
$$y - (-4) = m(x - 0)$$

$$y + 4 = mx$$

$$y = mx - 4$$

- (b) Draw the line.

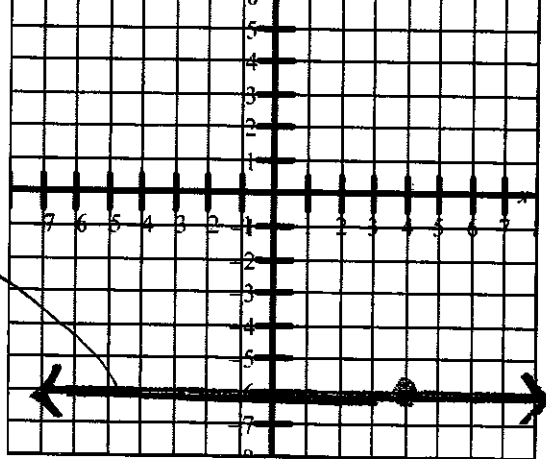
$$m = \frac{-4 - 1}{0 - 1} = \frac{-5}{-1} = 5$$



Draw picture first

(b) Draw the line.

Eqn is
 $y = -6$

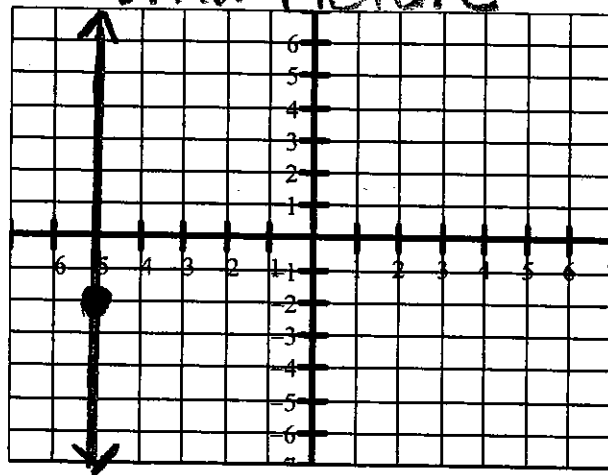


8. Find the equation of the line that has an undefined slope and passes through the point $(-5, -2)$.

Draw picture

(b) Draw the line.

Eqn is
 $x = -5$



9. Find the slope and y-intercept of the following equations.

a. $\frac{5x - 7}{3} = \frac{3y}{3}$ divide both sides by 3.

So, $m = \frac{5}{3}$ & y-int is $(0, -\frac{7}{3})$

10. Draw the line that passes through the point $(-5, 6)$ and has

slope $\frac{-8}{3}$ ← down 8
 rt. 3 →

$4x - 2y - 14 = 0$
 $-\frac{2y}{-2} = \frac{-4x + 14}{-2}$
 $y = 2x - 7$
 so $m = 2$ & y-int is $(0, -7)$

