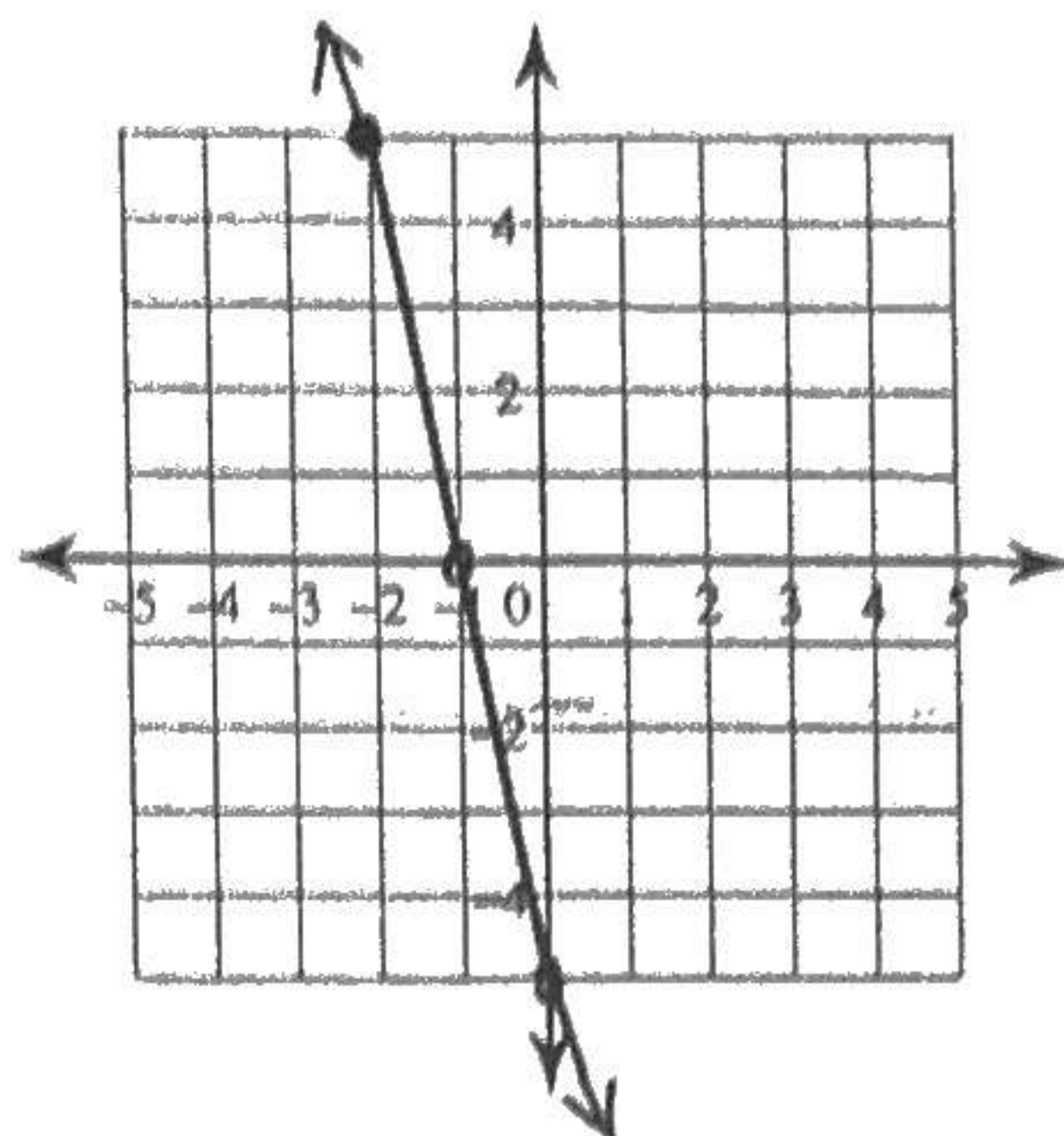


## Station 1

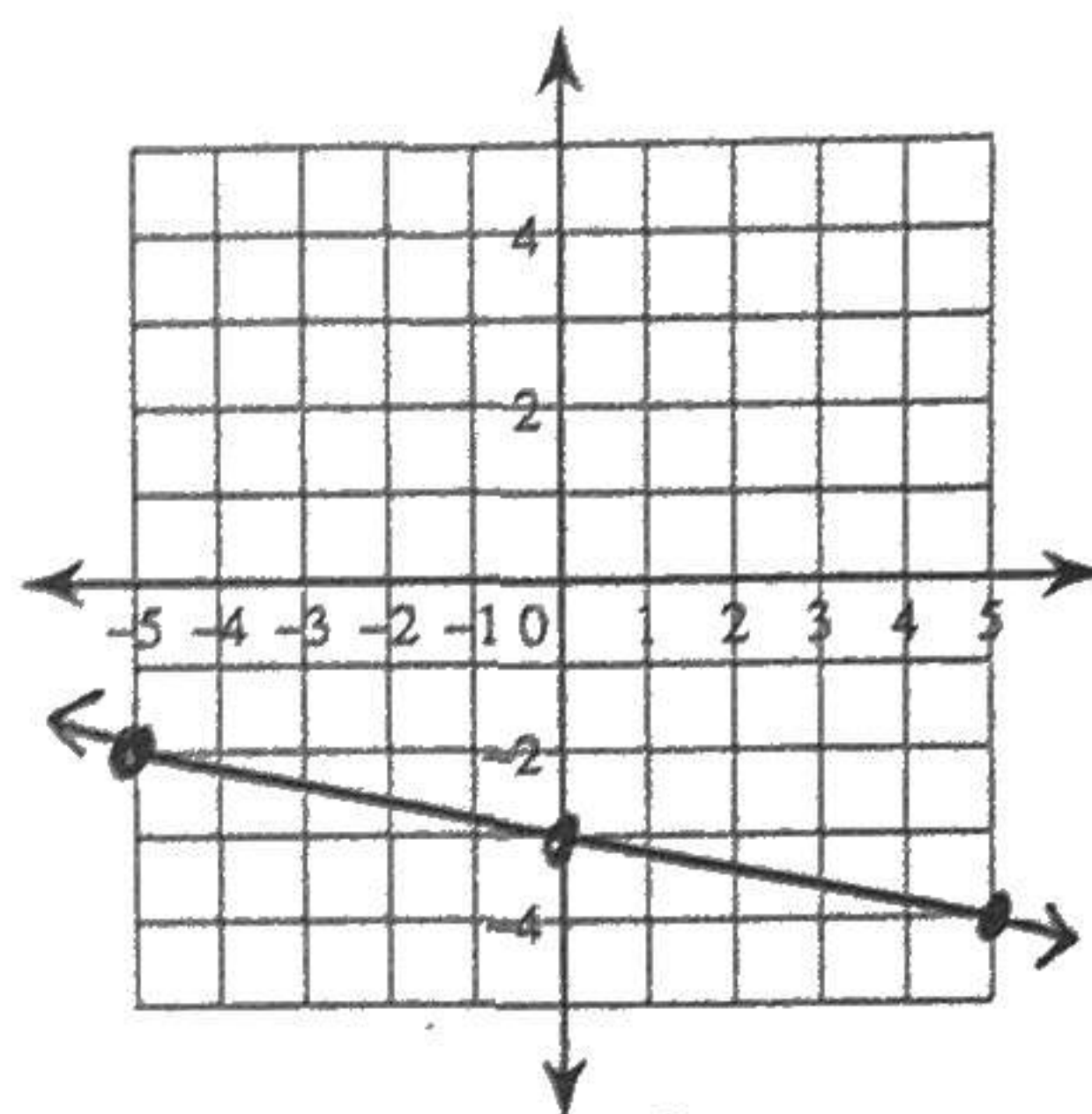
Write the slope-intercept form of the equation of each line.

1)



$$y = -5x - 5$$

2)



$$y = -\frac{1}{5}x - 3$$

Write the slope-intercept form of the equation of the line through the given point with the given slope.

3) through: (4, 2), slope =  $\frac{3}{2}$ 

$$y = mx + b$$

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

$$2 = 6 + b$$

$$-4 = b$$

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

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

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

4) through: (-3, -2), slope =  $-\frac{1}{3}$ 

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

$$-2 = 1 + b$$

$$-3 = b$$

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

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

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

Write the slope-intercept form of the equation of the line through the given points.

5) through: (2, 5) and (4, -3)

$$\frac{-3 - 5}{4 - 2} = \frac{-8}{2} = -4$$

$$y - 5 = -4(x - 2)$$

$$y - 5 = -4x + 8$$

$$y = -4x + 13$$

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

$$y + 3 = -4x + 16$$

$$y = -4x + 13$$

6) through: (2, 2) and (0, -2)

$$\frac{-2 - 2}{0 - 2} = \frac{-4}{-2} = 2$$

$$y - 2 = 2(x - 2)$$

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

$$y = 2x - 2$$

$$y + 2 = 2(x - 0)$$

$$y + 2 = 2x$$

$$y = 2x - 2$$



## Station 2

Write the point-slope form of the equation of the line through the given point with the given slope.

1) through:  $(-4, 3)$ , slope  $= -\frac{3}{4}$

2) through:  $(-1, -3)$ , slope  $= 1$

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

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

Write the point-slope form of the equation of the line through the given points.

3) through:  $(-1, 0)$  and  $(2, 3)$

4) through:  $(-4, 1)$  and  $(4, 0)$

$$\frac{3-0}{2-(-1)} = \frac{3}{3} = 1$$

$$y - 0 = 1(x + 1)$$

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

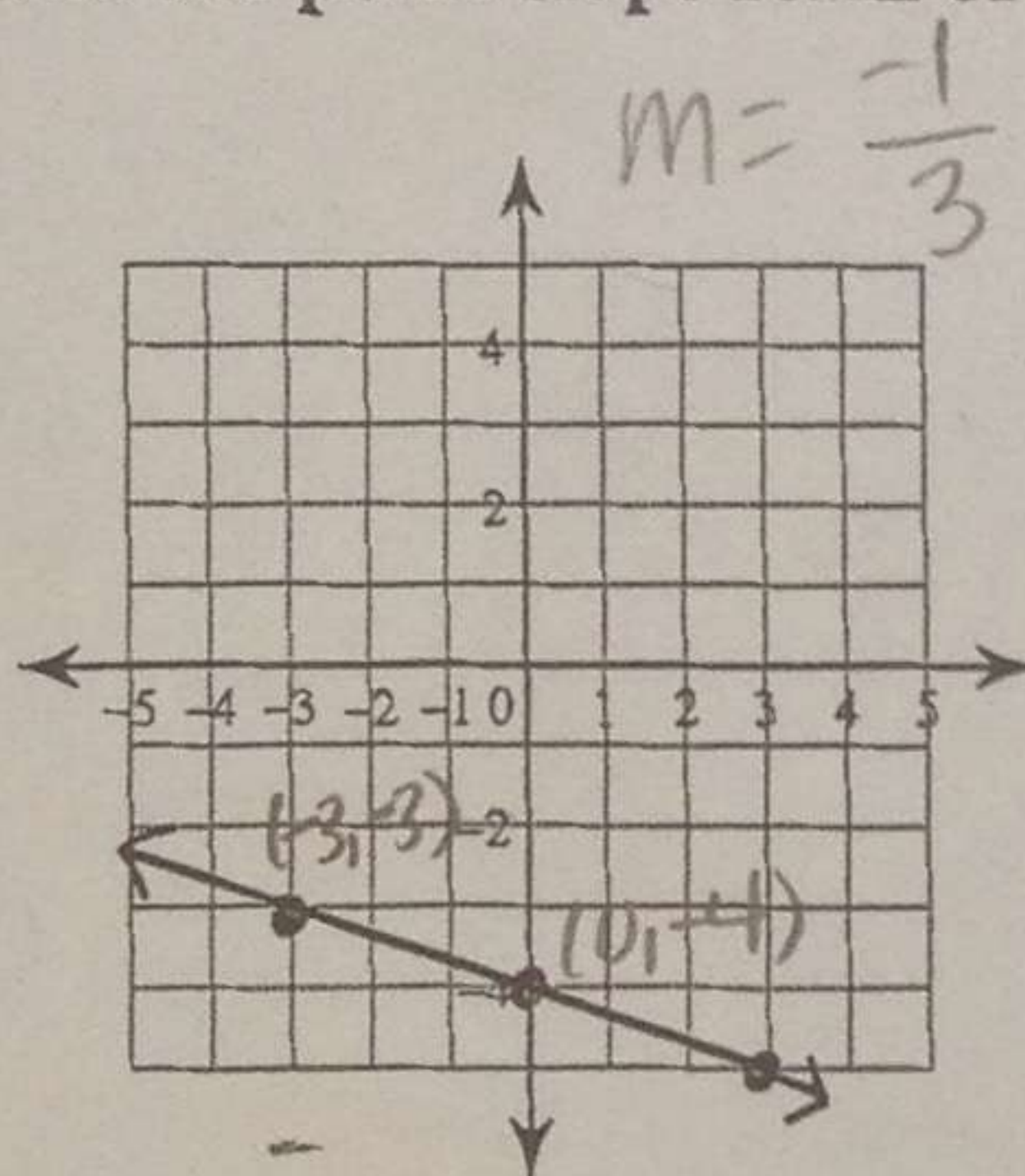
$$\frac{0-1}{4-(-4)} = \frac{-1}{8}$$

$$y - 1 = -\frac{1}{8}(x + 4)$$

$$y - 0 = -\frac{1}{8}(x - 4)$$

Write the point-slope form of the equation of each line.

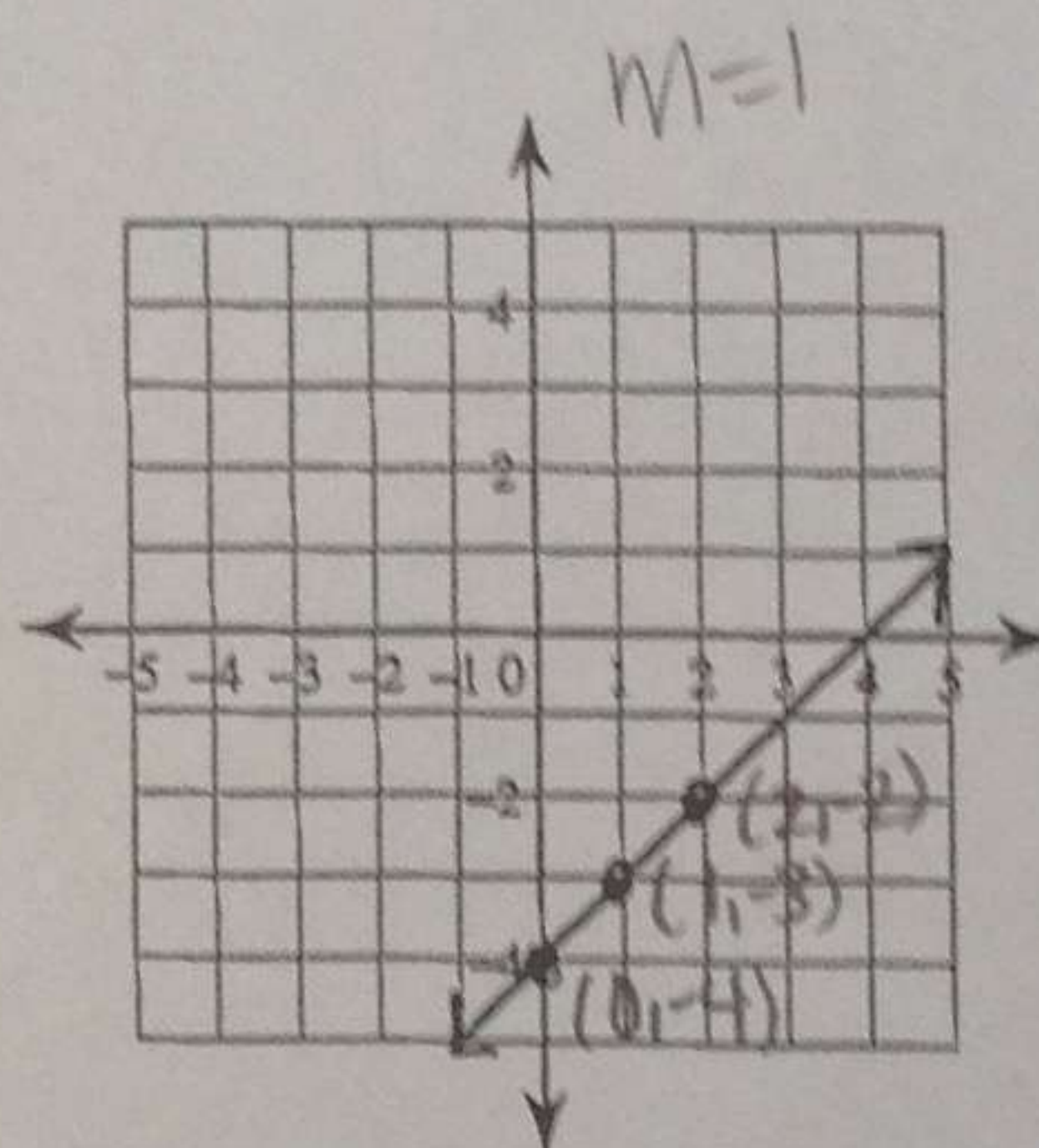
5)



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

$$y + 4 = -\frac{1}{3}(x - 0)$$

6)



$$y + 4 = 1(x - 0)$$

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

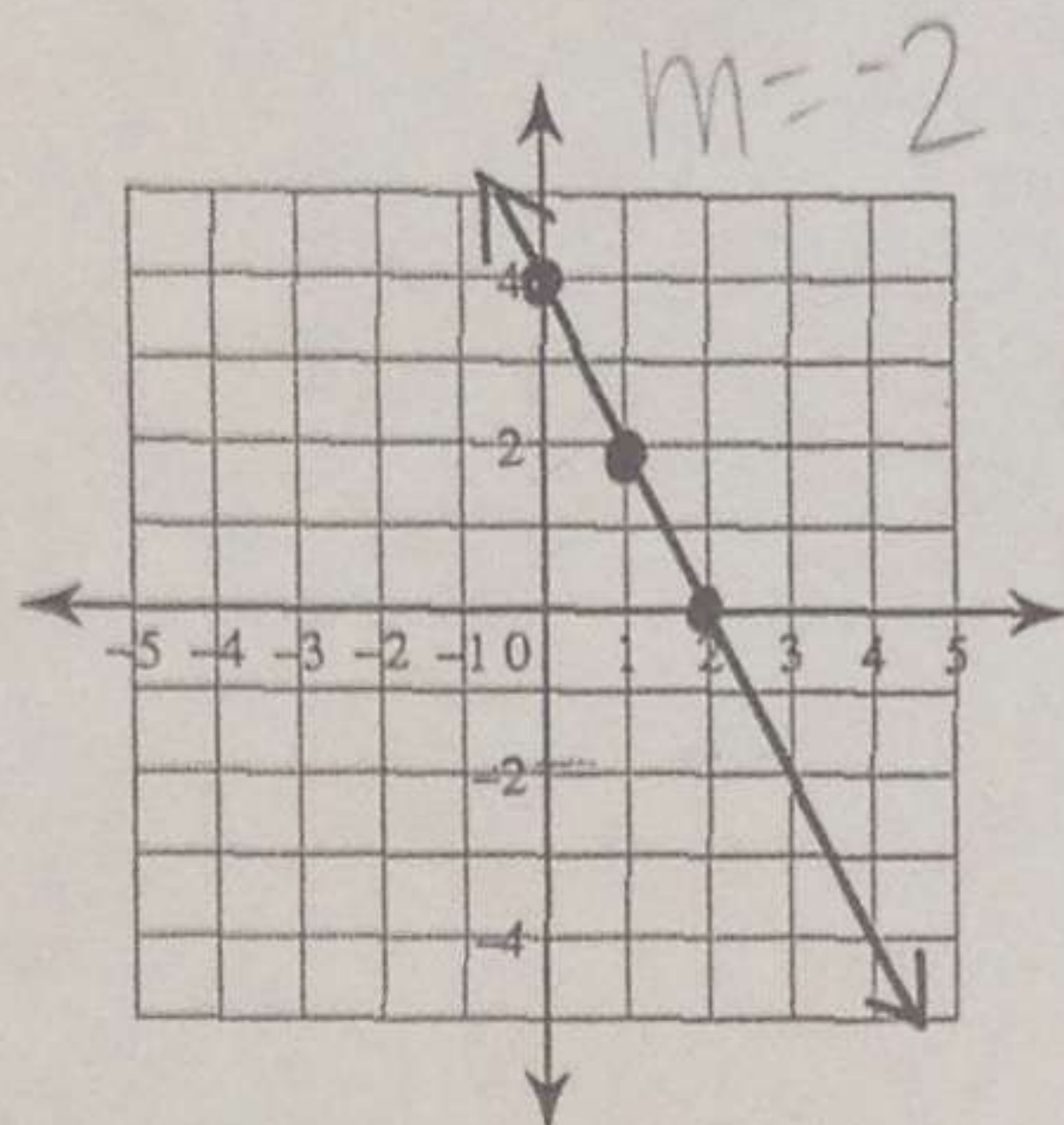
$$y + 2 = 1(x - 2)$$



## Station 3

Write the standard form of the equation of each line.

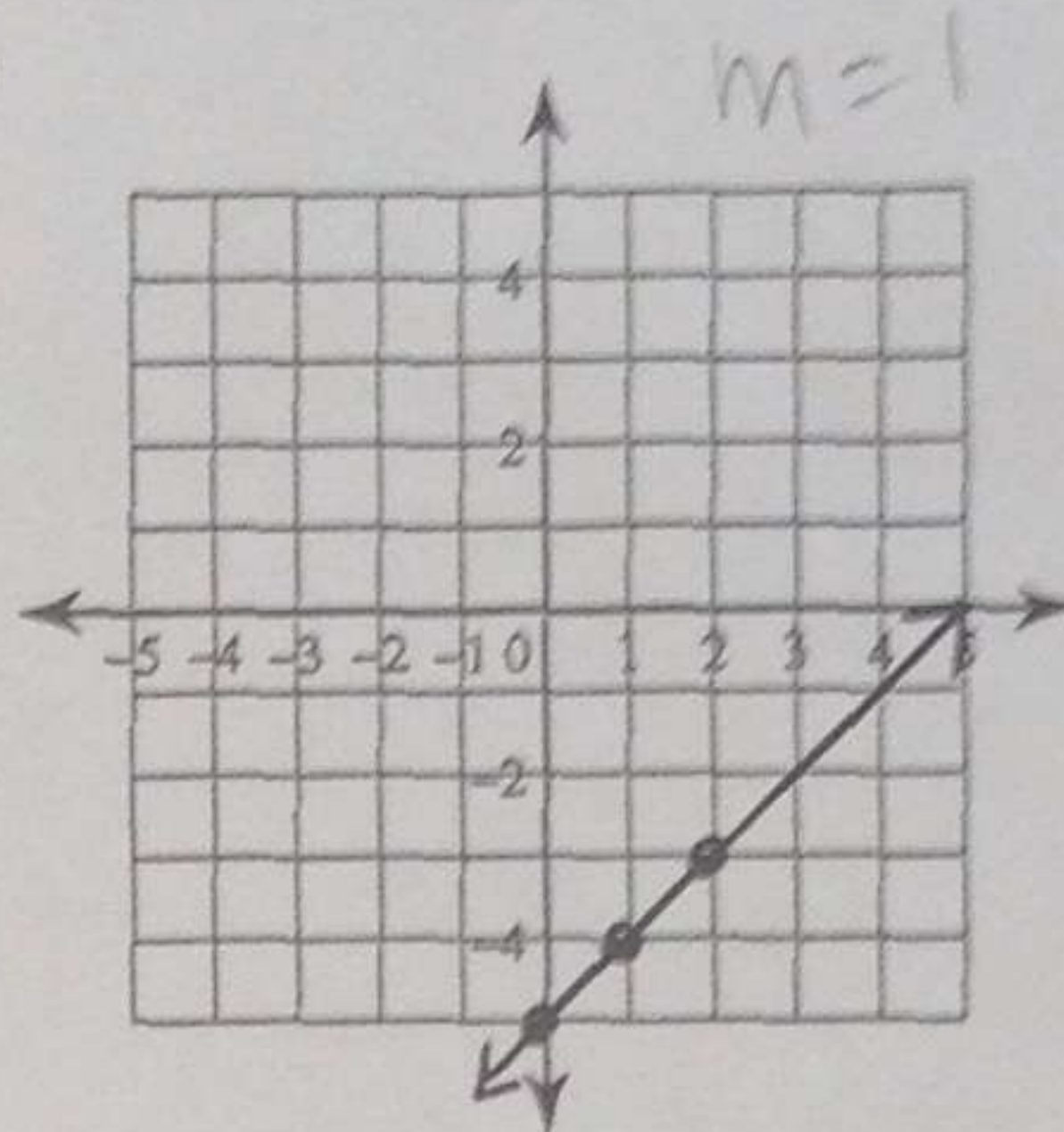
1)



$$y = -2x + 4$$

$$2x + y = 4$$

2)



$$y = x - 5$$

$$-x + y = -5$$

$$x - y = 5$$

Write the point-slope form of the equation of the line through the given point with the given slope.

3) through:  $(-1, -4)$ , slope = 2

$$y + 4 = 2(x + 1)$$

4) through:  $(-4, 3)$ , slope =  $-\frac{5}{4}$ 

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

Write the point-slope form of the equation of each line.

5) through:  $(-4, 4)$  and  $(3, -2)$ 

$$\frac{-2-4}{3+4} = \frac{-6}{7}$$

$$y - 4 = \frac{-6}{7}(x + 4)$$

$$y + 2 = \frac{-6}{7}(x - 3)$$

6) through:  $(-2, -4)$  and  $(5, 3)$ 

$$\frac{3+4}{5+2} = \frac{7}{7} = 1$$

$$y + 4 = 1(x + 2)$$

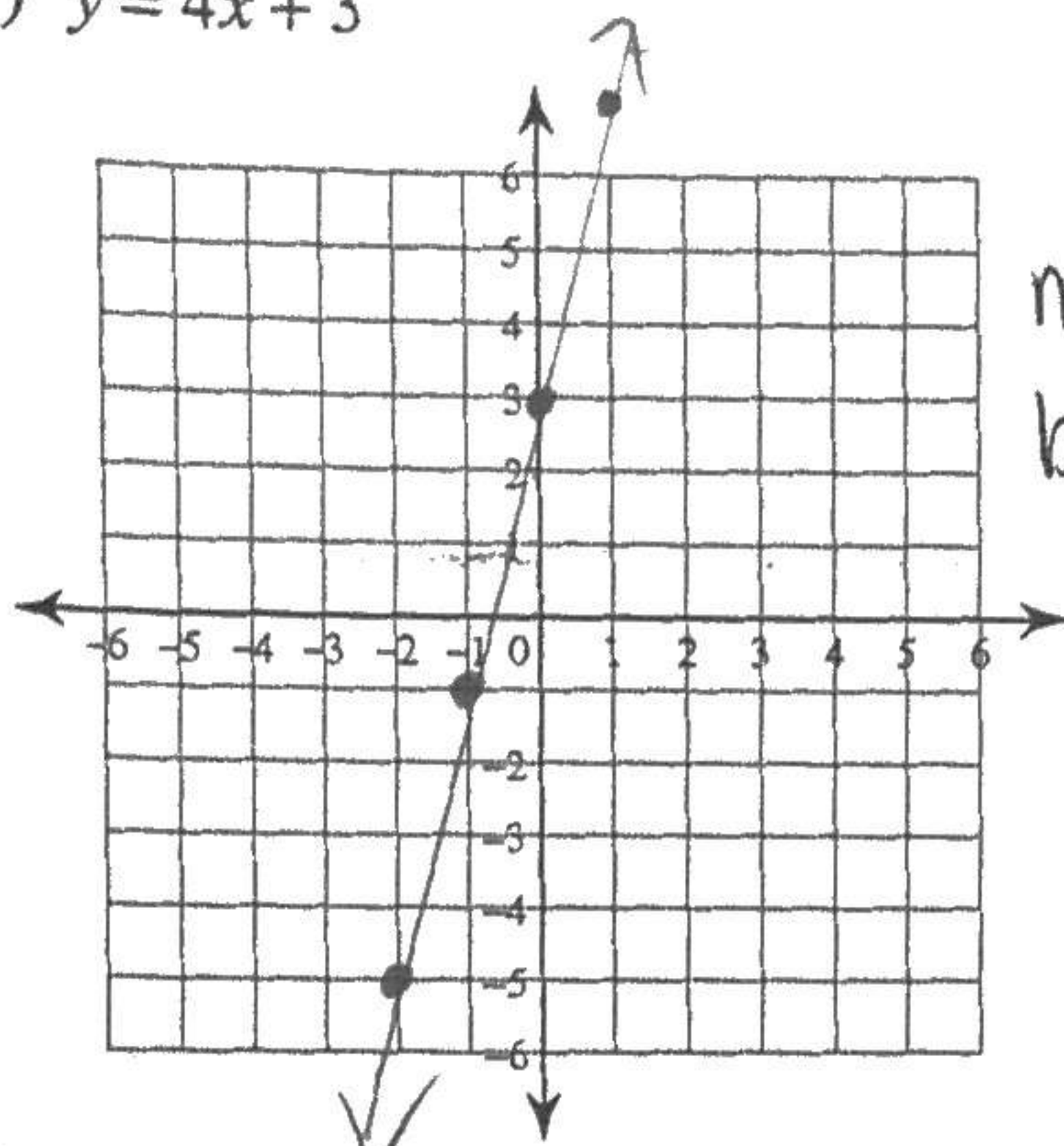
$$y - 3 = 1(x - 5)$$



## Station 4

**SLOPE-INTERCEPT FORM:** 1) Sketch the graph of each line. 2) Identify the slope and the y-intercept.

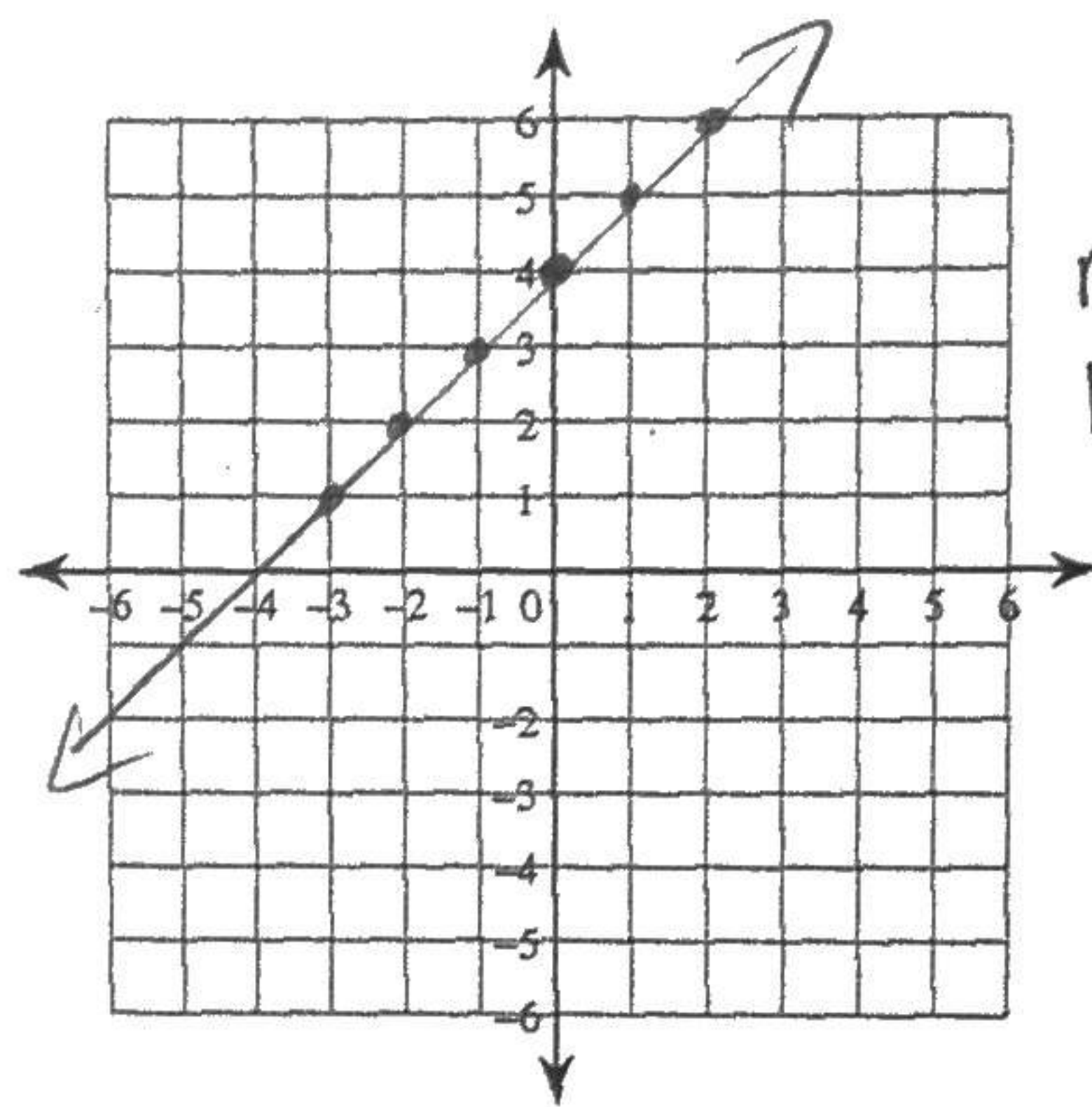
1)  $y = 4x + 3$



$$m = 4$$

$$b = 3$$

2)  $y = x + 4$

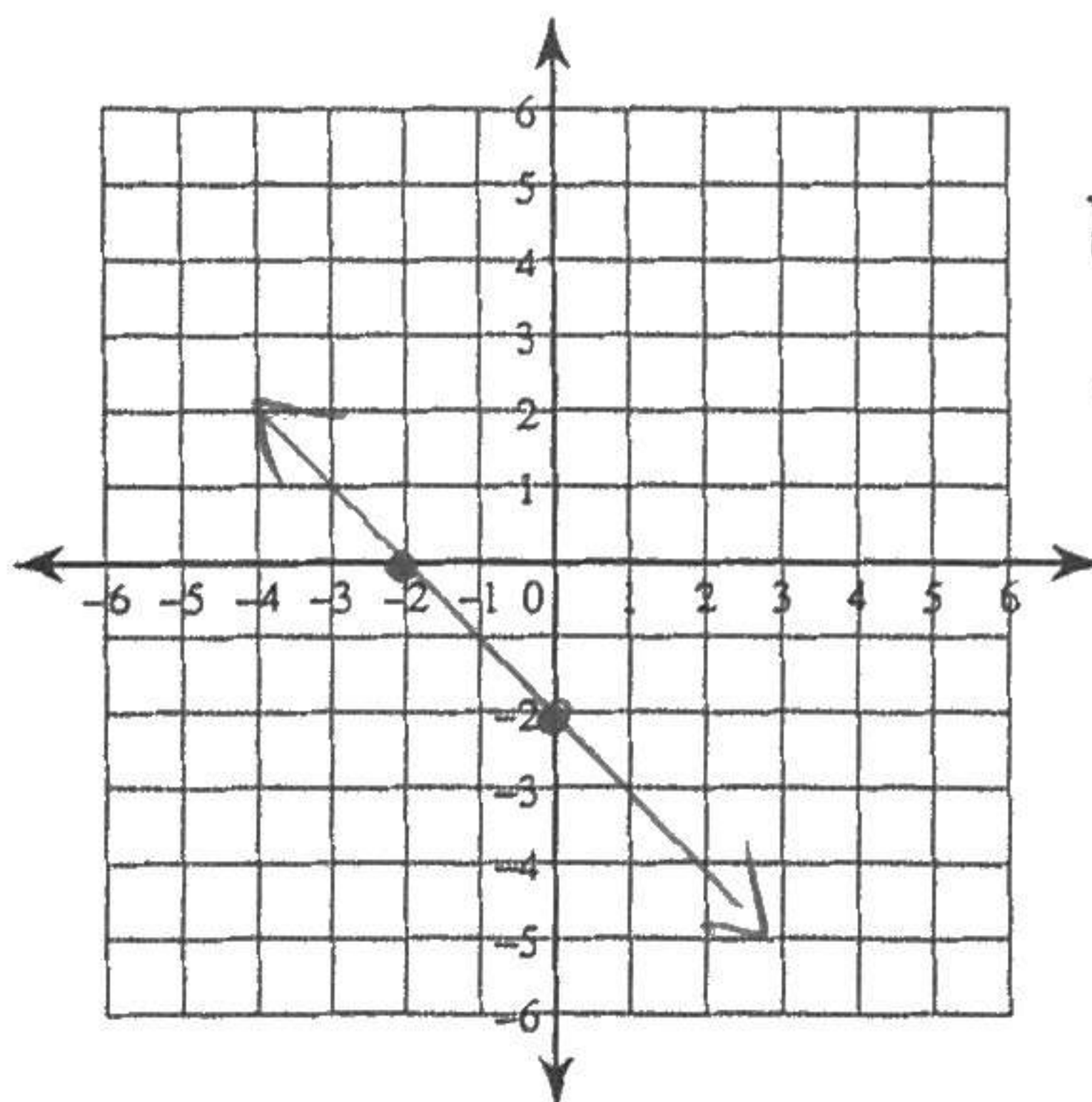


$$m = 1$$

$$b = 4$$

**STANDARD FORM:** 1) Sketch the graph of each line. 2) Identify the x- and y- intercepts.

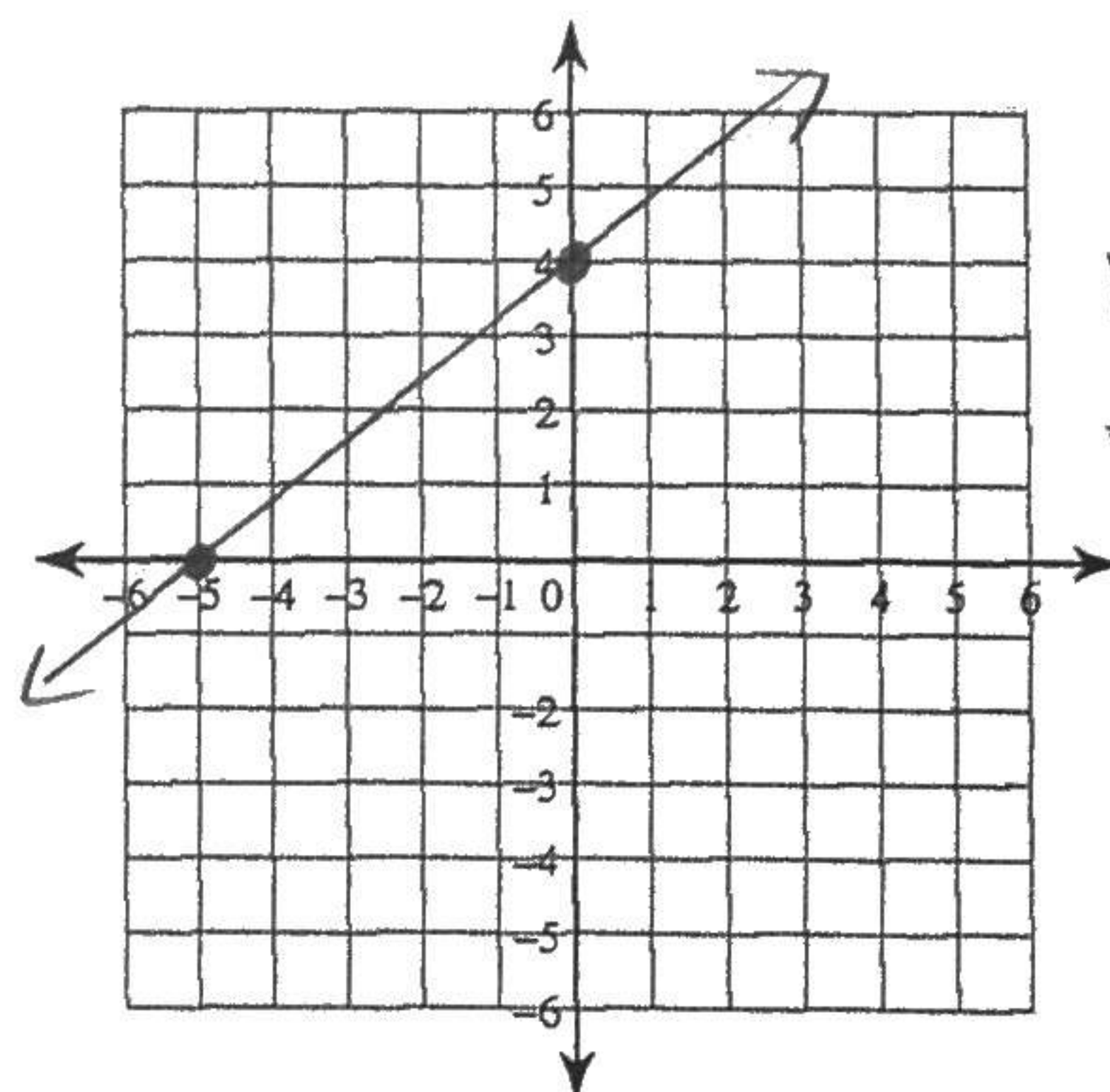
3)  $x + y = -2$



$$x\text{-int: } -2$$

$$y\text{-int: } -2$$

4)  $4x - 5y = -20$

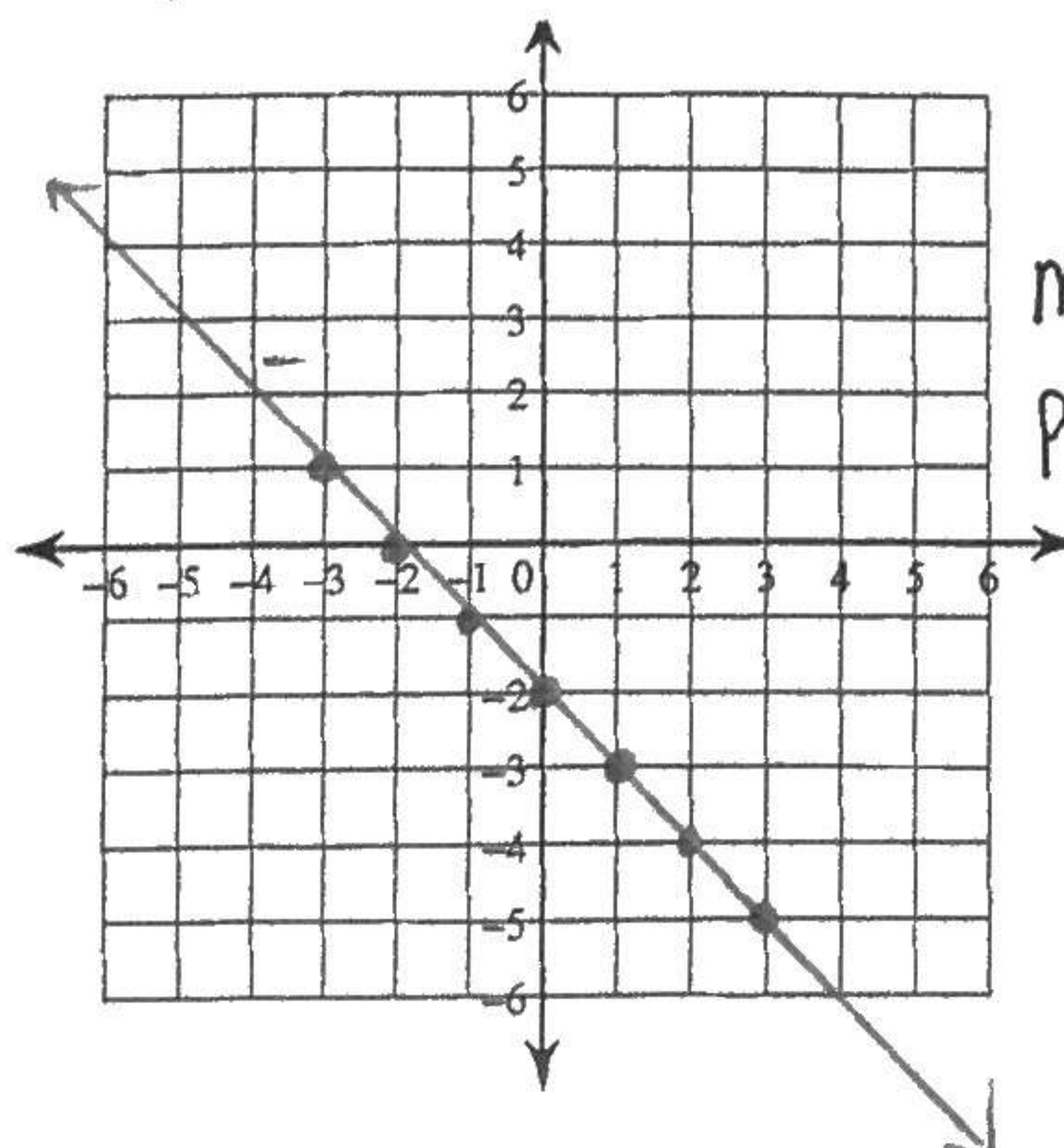


$$x\text{-int: } -5$$

$$y\text{-int: } 4$$

**POINT-SLOPE FORM:** 1) Sketch the graph of each line. 2) Identify the point and slope.

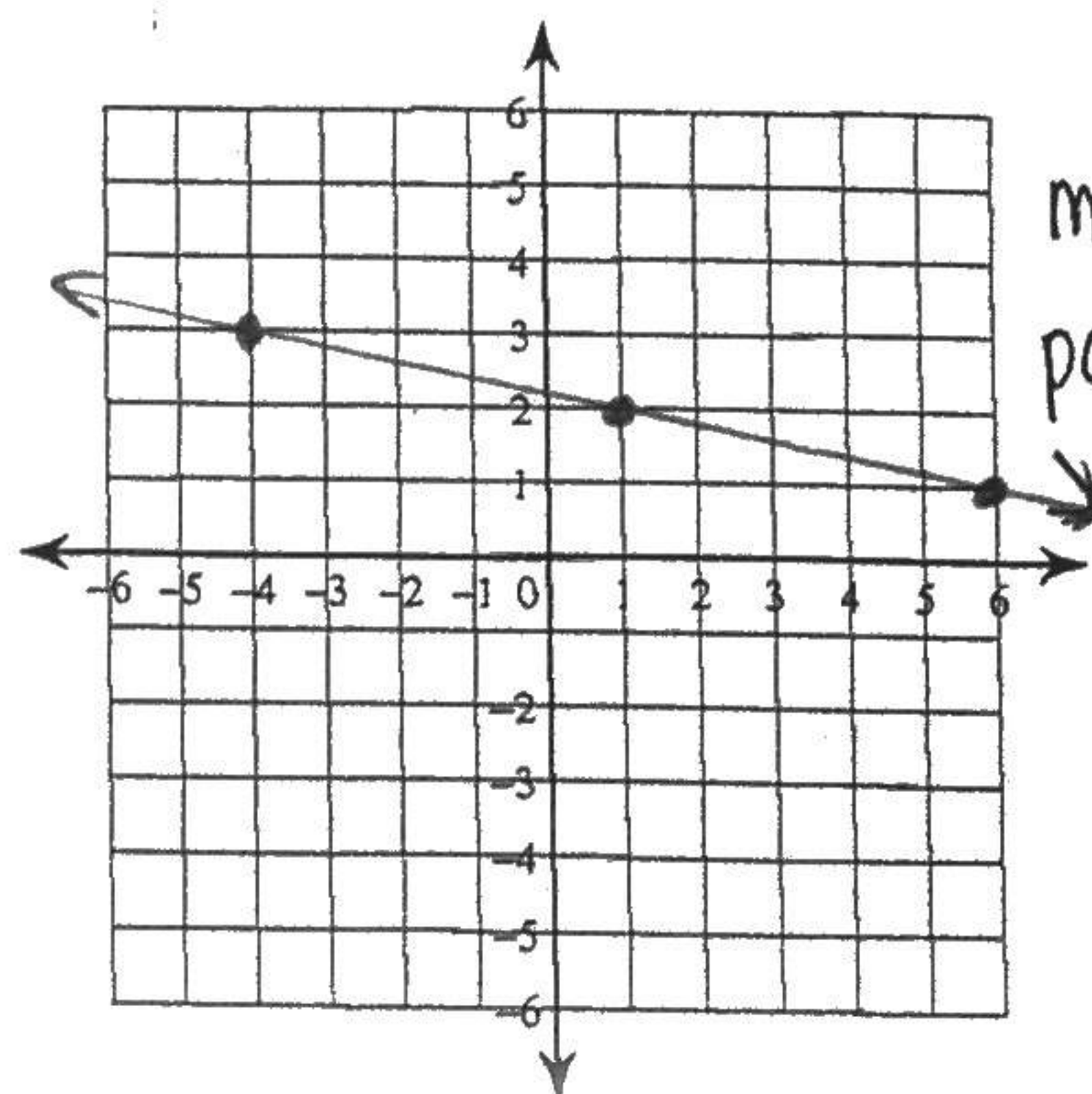
5)  $y + 2 = -(x - 0)$



$$m = -1$$

$$\text{point} \rightarrow (0, -2)$$

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



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

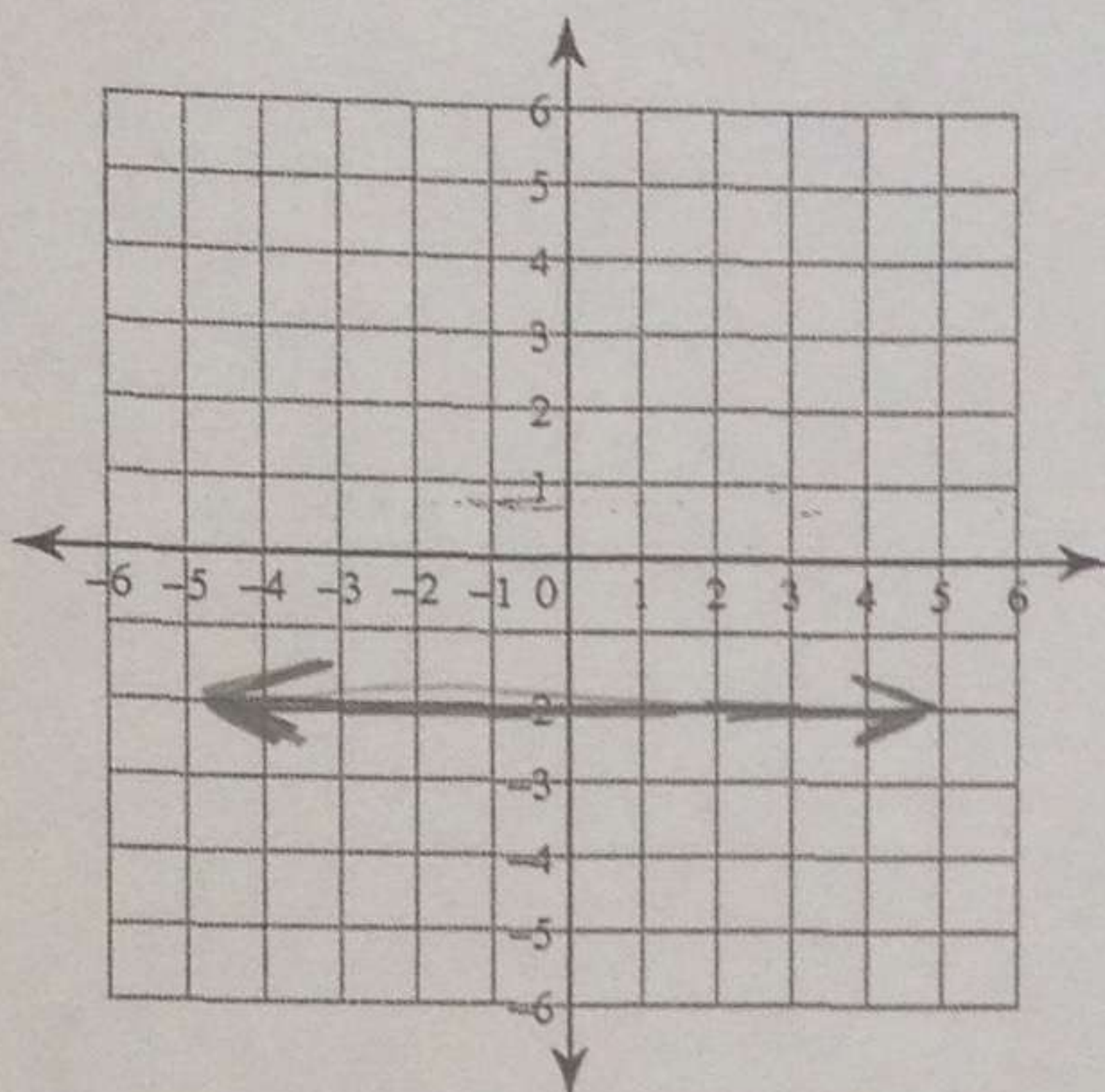
$$\text{point} \rightarrow (-4, 3)$$



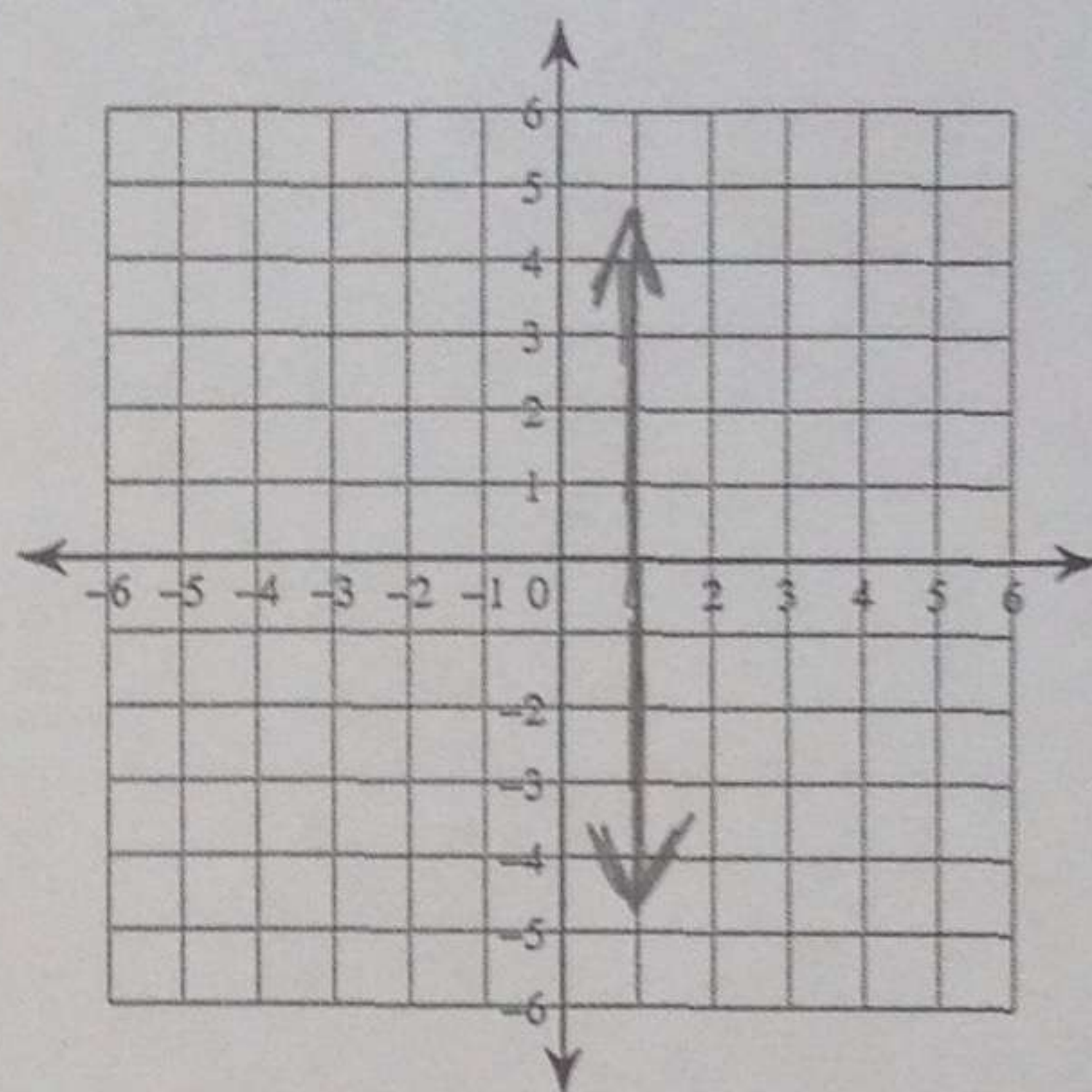
## Station 5

Sketch the graph of each line.

1)  $y = -2$



2)  $x = 1$



- 3) To join Work Out World, you must pay a one-time membership fee and \$20 per month. After being a member for 7 months, you pay a total of \$255 including the one-time fee. Write an equation that gives the total amount of you pay as a function of the number of months you are a member. Then, determine what the one-time membership fee is.

$$y - 225 = 20(x - 7)$$

$$y - 225 = 20x - 140$$

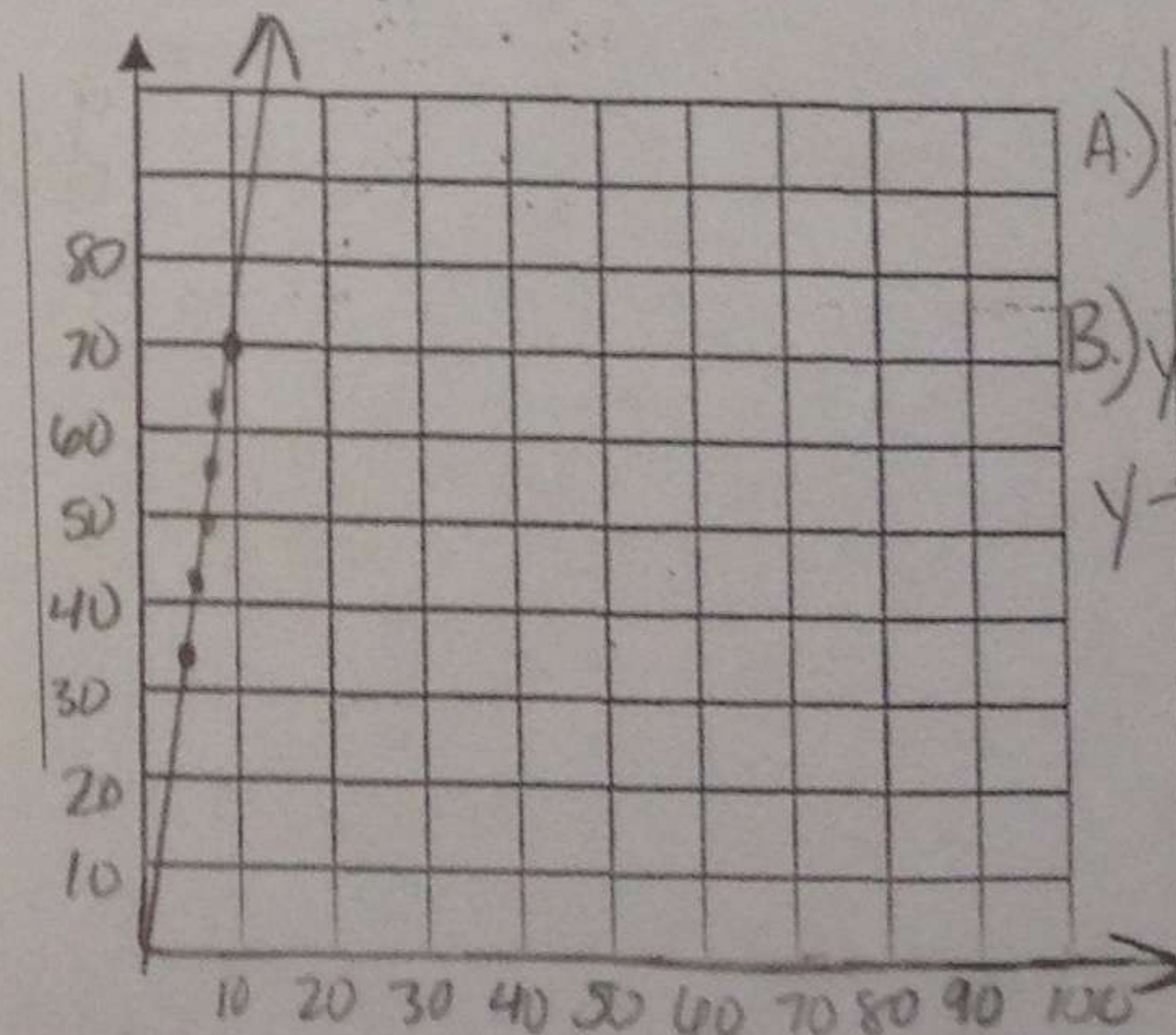
$$y = 20x + 85$$

\$85

(5, 35)  
(6, 42)  
(7, 49)  
(8, 56)  
(9, 63)  
(10, 70)

# of cars washed

- 4) A car wash opens at 8:00 am. You are start 3 11:00am hours after it opens. Two hours after you begin 1:00pm your shift, there have been a total of 35 cars washed. At 4:00 pm, the car wash closes. There were a total of 56 cars washed for the day. A) What is the rate of cars washed per hour? B) Write an equation in Point-Slope Form that models the linear relationship. C) Graph the equation. D) How many cars were washed before you started?



A) 7 cars per hour

B)  $y - 56 = 7(x - 8)$

$y - 35 = 7(x - 5)$

$$\frac{56 - 35}{8 - 5} = \frac{21}{3} = 7$$