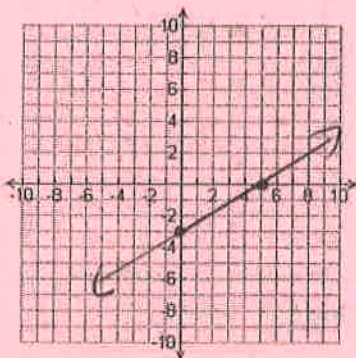
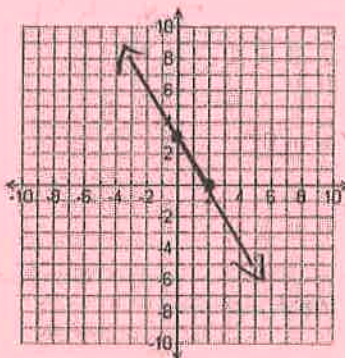


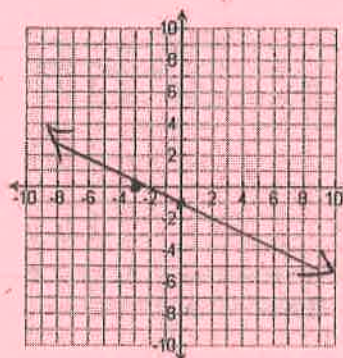
1. Graph the equation of a line with x-int 5 and y-int -3:



Graph the equation of a line with x-int 2 and y-int 3:



Graph the equation of a line with x-int -3 and y-int -1:



2. What are the x and y-intercepts of the following line? $3x+2y+6=0$

x-int
 $3x+2(0)+6=0$
 $3x=-6$
 $x=-2$ (-2, 0)

y-int
 $3(0)+2y+6=0$
 $2y=-6$
 $y=-3$ (0, -3)

What are the x and y-intercepts of the following line? $2x-4y-12=0$

x-int
 $2x-4(0)-12=0$
 $2x=12$
 $x=6$ (6, 0)

y-int
 $2(0)-4y-12=0$
 $-4y=12$
 $y=-3$ (0, -3)

What are the x and y-intercepts of the following line? $5x+2y+30=0$

x-int
 $5x+2(0)+30=0$
 $5x=-30$
 $x=-6$ (-6, 0)

y-int
 $5(0)+2y+30=0$
 $2y=-30$
 $y=-15$ (0, -15)

3. Find the slope of the line that passes through (-2, 3) and (5, -2)

$m = \frac{y_2 - y_1}{x_2 - x_1}$
 ~~$m = \frac{3 - (-2)}{-2 - 5}$~~
 $m = \frac{3 - (-2)}{-2 - 5} = \frac{5}{-7}$ -7/5

Find the slope of the line that passes through (-1, 4) and (2, -3)

$m = \frac{y_2 - y_1}{x_2 - x_1}$
 $m = \frac{-3 - 4}{2 - (-1)} = \frac{-7}{3}$ -7/3

Find the slope of the line that passes through (-2, -3) and (-5, -2)

$m = \frac{y_2 - y_1}{x_2 - x_1}$
 $m = \frac{-2 - (-3)}{-5 - (-2)} = \frac{1}{-3}$ -1/3

4. Find the equation of a line with slope $\frac{1}{3}$ and y-int 5 in slope intercept form:

$$y = mx + b$$

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

Find the equation of a line with slope $-\frac{2}{3}$ and y-int 4 in slope intercept form:

$$y = mx + b$$

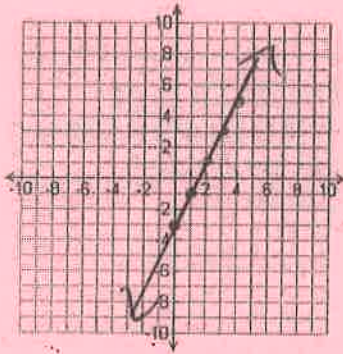
$$y = -\frac{2}{3}x + 4$$

Find the equation of a line with slope 5 and y-int $\frac{2}{3}$ in slope intercept form:

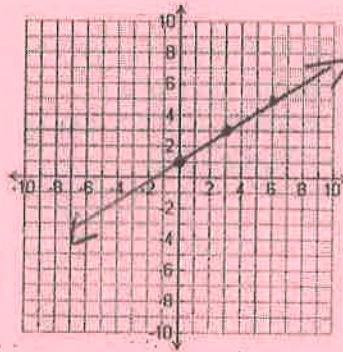
$$y = mx + b$$

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

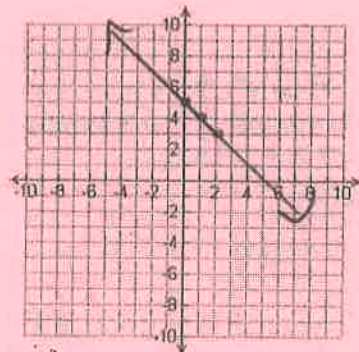
5. Graph $y = 2x - 3$



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



Graph $y = -x + 5$



6. Graph $2x + 3y - 6 = 0$

x int

$$2x + 3(0) - 6 = 0$$

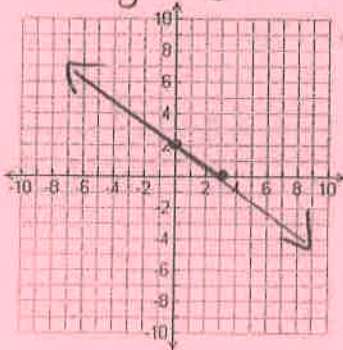
$$2x = 6 \quad (3, 0)$$

$x = 3$

y int

$$2(0) + 3y - 6 = 0$$

$$3y = 6 \quad y = 2 \quad (0, 2)$$



Graph $3x - 2y - 6 = 0$

x int

$$3x - 2(0) - 6 = 0$$

$$3x = 6 \quad (2, 0)$$

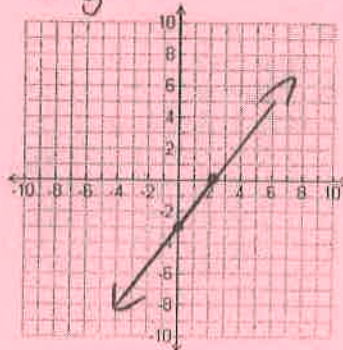
$x = 2$

y int

$$3(0) - 2y - 6 = 0$$

$$-2y = 6 \quad (0, -3)$$

$y = -3$



Graph $5x - 2y + 10 = 0$

x int

$$5x - 2(0) + 10 = 0$$

$$5x = -10 \quad (-2, 0)$$

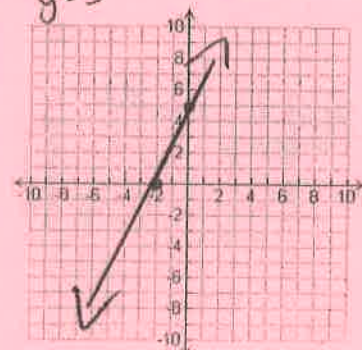
$x = -2$

y int

$$5(0) - 2y + 10 = 0$$

$$-2y = -10 \quad (0, 5)$$

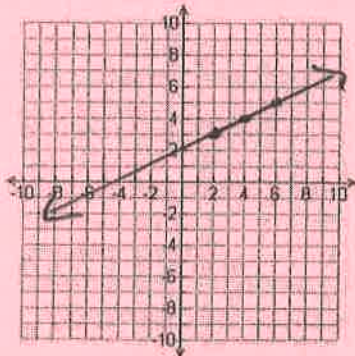
$y = 5$



7. Graph $y-3=\frac{1}{2}(x-2)$

$$m = \frac{1}{2}$$

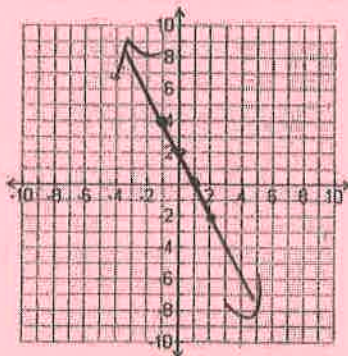
$$(2, 3)$$



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

$$m = -2$$

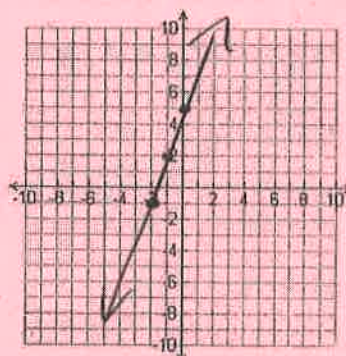
$$(-1, 4)$$



Graph $y+1=3(x+2)$

$$m = 3$$

$$(-2, -1)$$



8. Write the equation of the line that goes through $(-3, 2)$ and $(-2, 5)$ in all three forms

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{2 - 5}{-3 - (-2)} = \frac{-3}{-1}$$

$$m = 3$$

Slope point

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

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

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

Slope intercept

$$y = 3(x + 3) + 2$$

$$y = 3x + 9 + 2$$

$$y = 3x + 11$$

General

$$0 = 3x - y + 11$$

Write the equation of the line that goes through $(5, -2)$ and $(-2, -5)$ in all three forms

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-2 - (-5)}{5 - (-2)} = \frac{3}{7}$$

$$m = \frac{3}{7}$$

Slope point

$$y - (-2) = \frac{3}{7}(x - 5)$$

$$y + 2 = \frac{3}{7}(x - 5)$$

Slope intercept

$$y = \frac{3}{7}(x - 5) - 2$$

$$y = \frac{3}{7}x - \frac{15}{7} - 2$$

$$y = \frac{3}{7}x - \frac{15}{7} - \frac{14}{7}$$

$$y = \frac{3}{7}x - \frac{29}{7}$$

General

$$0 = \frac{3}{7}x - y - \frac{29}{7}$$

$$0 = 3x - 7y - 29$$

Write the equation of the line that goes through $(3, 2)$ and $(-5, 5)$ in all three forms

$$m = \frac{2 - 5}{3 - (-5)} = \frac{-3}{8}$$

Slope point

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

Slope intercept

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

$$y = -\frac{3}{8}x + \frac{9}{8} + 2$$

$$y = -\frac{3}{8}x + \frac{9}{8} + \frac{16}{8}$$

$$y = -\frac{3}{8}x + \frac{25}{8}$$

$$y = -\frac{3}{8}x + \frac{25}{8}$$

General

$$0 = -\frac{3}{8}x - y + \frac{25}{8}$$

$$0 = -3x - 8y + 25$$

9. Write the equation of the line that is parallel to $4x+8y-12=0$ and goes through $(3,4)$ in general form

$$8y = -4x + 12$$

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

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

$$y - 4 = -\frac{1}{2}(x - 3)$$

$$y - 4 = -\frac{1}{2}x + \frac{3}{2}$$

$$2 \times \left(\frac{1}{2}x + y - 4 - \frac{3}{2} = 0 \right)$$

$$x + 2y - 8 - 3 = 0$$

$$x + 2y - 11 = 0$$

Write the equation of the line that is parallel to $2x+y-1=0$ and goes through $(-2,3)$ in general form

$$2x + y - 1 = 0$$

$$y = -2x + 1$$

$$m = -2$$

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

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

$$2x + y - 3 + 4 = 0$$

$$2x + y + 1 = 0$$

Write the equation of the line that is parallel to $5x-15y-30=0$ and goes through $(-1,0)$ in general form

$$5x - 15y - 30 = 0$$

$$-15y = -5x + \frac{30}{-15}$$

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

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

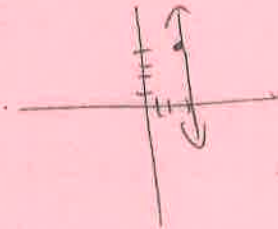
$$y - 0 = \frac{1}{3}(x + 1)$$

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

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

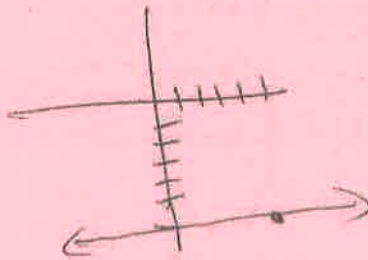
$$0 = x - 3y + 1$$

10. Write the equation of the vertical line that goes through $(3,4)$



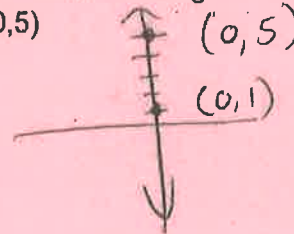
$$x = 3$$

Write the equation of the horizontal line that goes through $(5,-6)$



$$y = -6$$

Write the equation of the vertical line that goes through $(0,5)$



$$x = 0$$