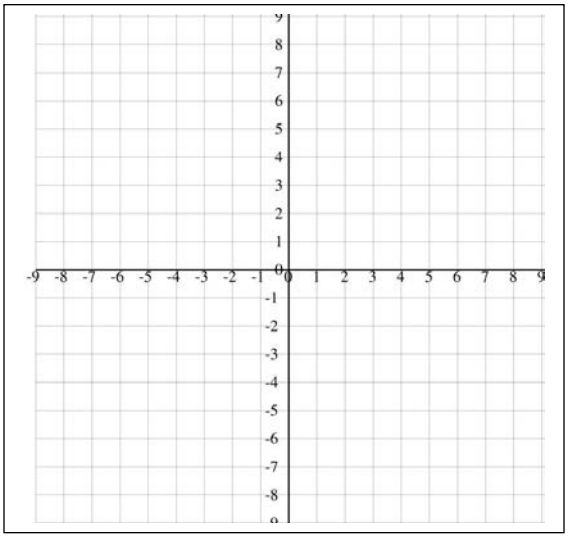
Linear Equations Comprehensive Worksheet

1. *Given*: a line has a slope of $\frac{2}{3}$ that passes through the point $(-6,-2)$

a) Find the equation of the line in slope-intercept form.

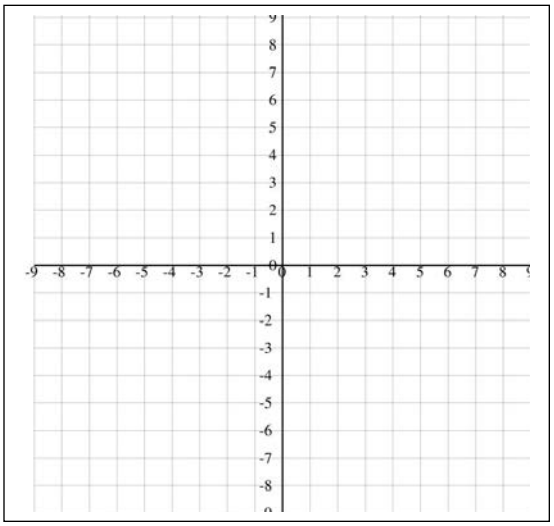


b) Provide the graph of the line.

c) Convert your answer in a) to standard form.

2. *Given*: a line that passes through the point $(2,5)$ and $(4,6)$.

a) Find the equation of the line in slope-intercept form.

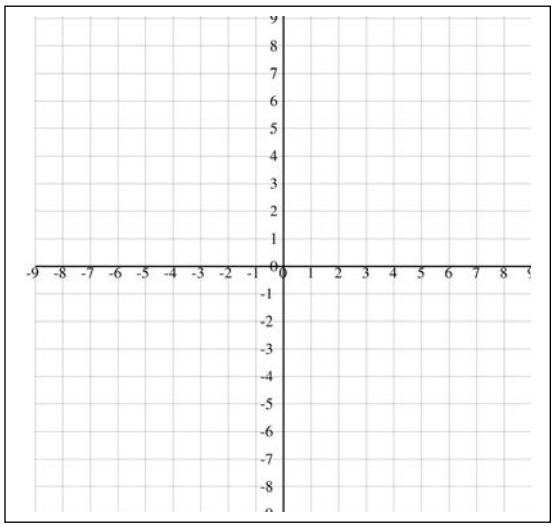


b) Find the equation of the line in point-slope form.

c) Provide the graph of the line.

3. *Given*: $2x-3y=12$

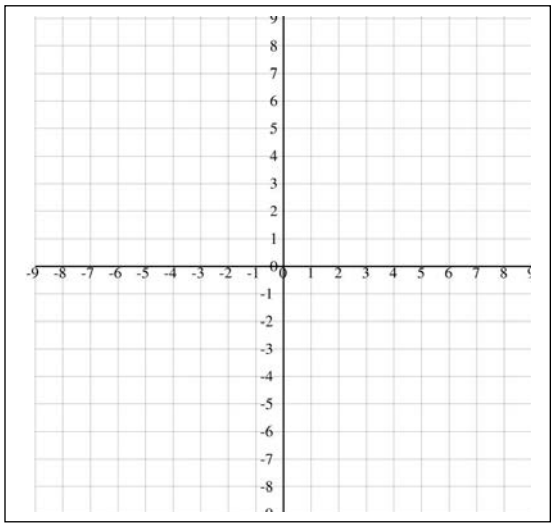
a) Find the x and y-intercepts.



b) Provide the graph of the line.

c) Write it in slope-intercept form.

4. *Given* : $-2x+3y<6$



a) Is $(3,5)$ a solution of the above inequality.

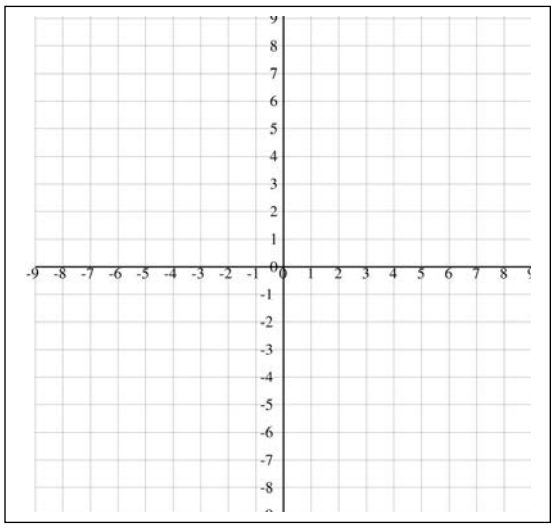
b) Is $(4,4)$ a solution of the above inequality

c) Graph the inequality.

d) Is the point (3, 5) in the shaded region?

e) Is the point (4, 4) in the shaded region?

5. *Given* : $y \geq \frac{1}{2}x-3$



a) Is $(2,5)$ a solution of the above inequality.

b) Is $(4,-1)$ a solution of the above inequality

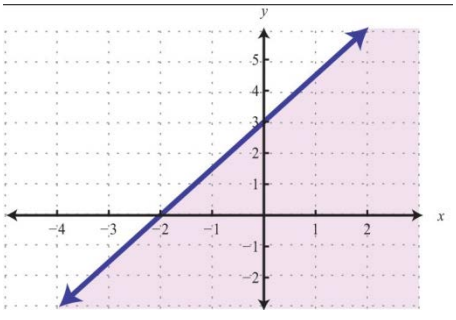
c) Graph the inequality.

d) Is the point (2, 5) in the shaded region?

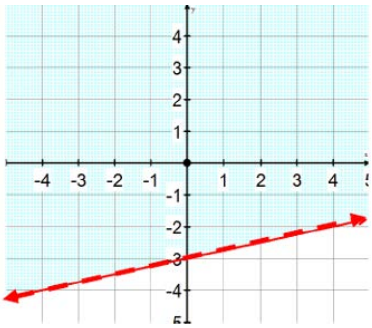
e) Is the point (4, -1) in the shaded region?

6. Write an inequality for each of the following:

a) _____



b)



c) Is the point (-4, -1) a solution of either graph?