

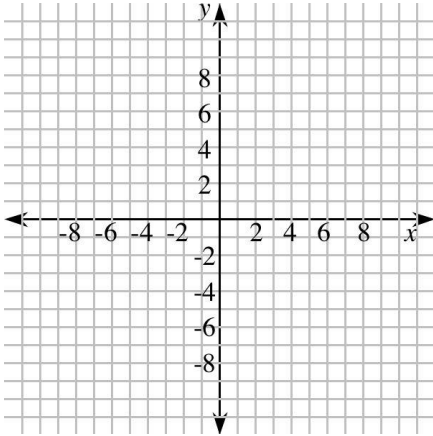
Graphing Linear Inequalities
Algebra Foundations

Name _____

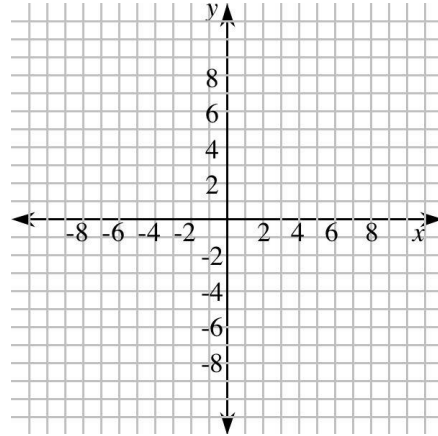
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Convert each equation to y-Form if needed then graph and shade appropriately.

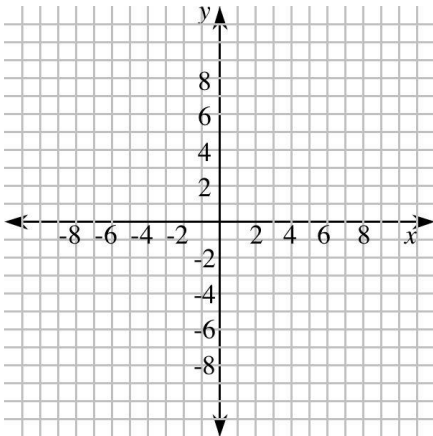
1) $y > \frac{1}{2}x - 3$



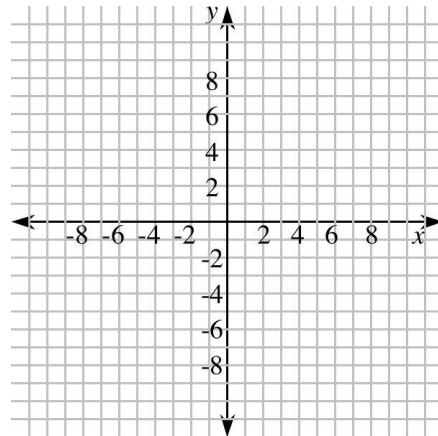
2) $3y \leq 3x + 6$



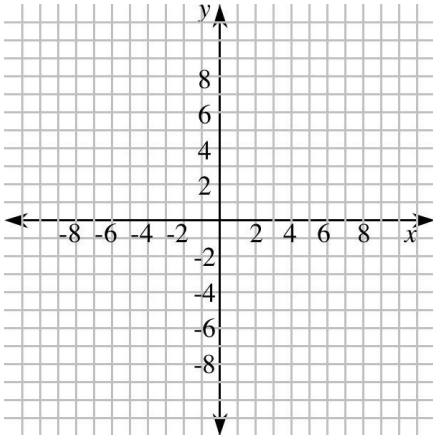
3) $y > -5$



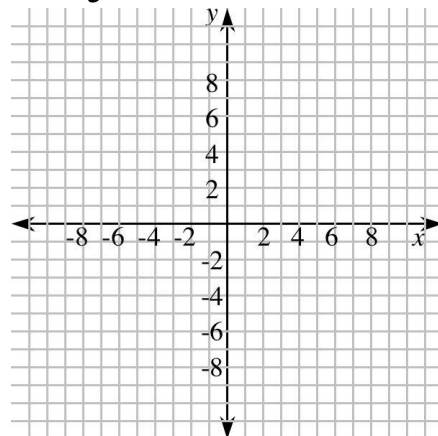
4) $x + 4y \leq 8$



5) $-2y \geq 4x + 8$



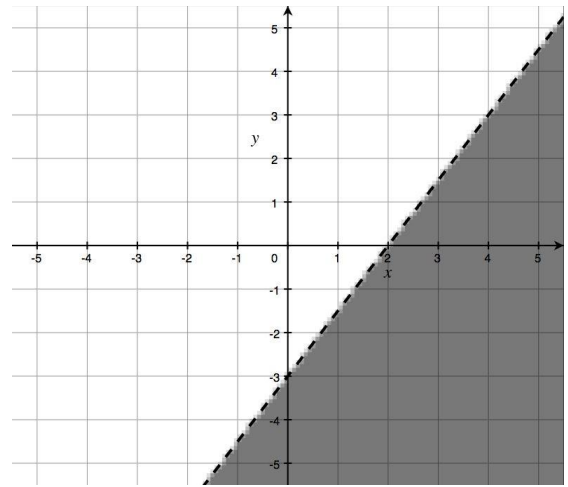
6) $y < \frac{-4}{3}x$



Inequalities—How many answers can you have?

1) Determine whether each point is in the shaded region shown in the graph to the right. (y or n)

- a) (1, 2)
- b) (4, 3)
- c) (2, -2)
- d) (-4, 0)
- e) (3.27, -4.03)
- f) (0, -3)
- g) (10, -5)
- h) (0, -5)



2) Given the inequality $4x + 3y \geq 12$:
Determine algebraically if each point is a solution or not.

- a. (-2, 4)
- b. (3, -2)
- c. (0, 2)
- d. (2, 5)

3) Graph the inequality from problem 2 on the coordinate plane to the right. Use the **intercepts** method to make the graph.

4) Use the graph to check if your answers to problem 2 are correct.

5) Use the graph to determine the following points are solutions to $4x + 2y \geq 12$:

- a. (3.7, 2.15)
- b. (-2, 4.88)
- c. (5.6, -3.99)
- d. (0, 0)

