

## HW18: Systems and Solutions

Date \_\_\_\_\_ Period \_\_\_\_\_

**Define the following on a separate piece of paper.**

1) System

2) Solution to a system

**Determine if the point is a solution to the systems. Prove your answer by showing your work on a separate sheet of paper.**

3) Point (3, 4)

$$\text{System } y = 7x - 17$$

$$y = -2x + 10$$

4) Point (1, -2)

$$\text{System } y = 5x - 7$$

$$y = -2x + 10$$

5) Point (-2, 0)

$$\text{System } y = 3x + 6$$

$$y = -2x - 4$$

6) Point (-10, 4)

$$\text{System } y = 4x + 17$$

$$y = -5x - 46$$

7) Point (3, 2)

$$\text{System } 3x + 2y = 10$$

$$-2x - 5y = -16$$

8) Point  $\left(4, \frac{1}{2}\right)$ 

$$\text{System } x - 2y = 3$$

$$2x + 4y = 10$$

9) Point (-5, 7)

$$\text{System } 3x + 2y = 17$$

$$5x - y = -32$$

10) Point (-5, 7)

$$\text{System } 3x + 2y = 7$$

$$-2x - y = 3$$

11) Point (-2, 1)

$$\text{System } y > 2x - 7$$

$$y < -5x - 2$$

12) Point  $\left(\frac{1}{2}, 2\right)$ 

$$\text{System } y < 4x + 8$$

$$y \geq -2x - 5$$

13) Point (3, 10)

$$\text{System } y \leq 2x + 4$$

$$y \leq 3x - 1$$

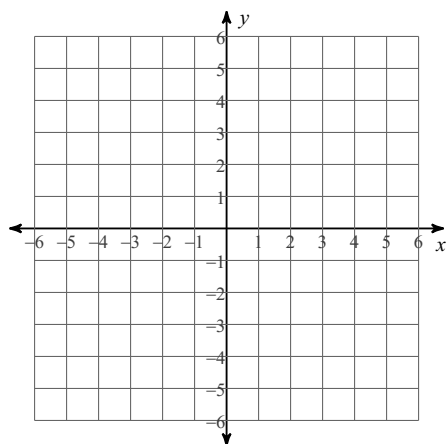
14) Point (-3, -1)

$$\text{System } y < 2x + 12$$

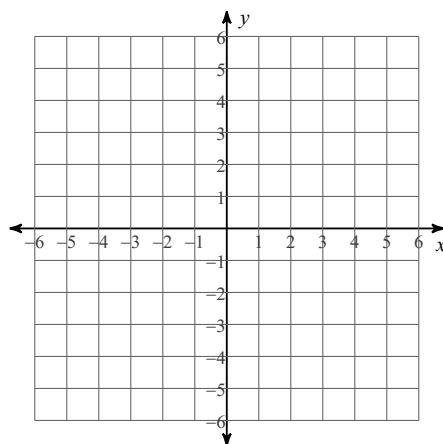
$$y \geq 5x + 7$$

**Sketch the graph of each line. You may do so on this paper.**

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

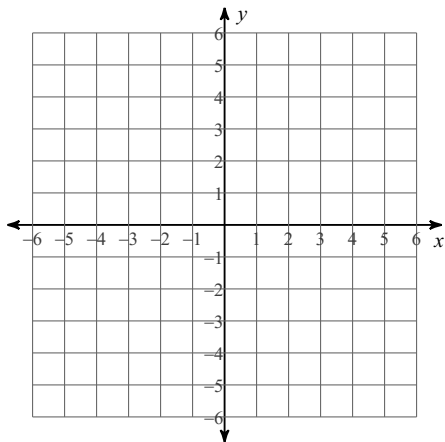


16)  $y = -\frac{7}{5}x - 3$

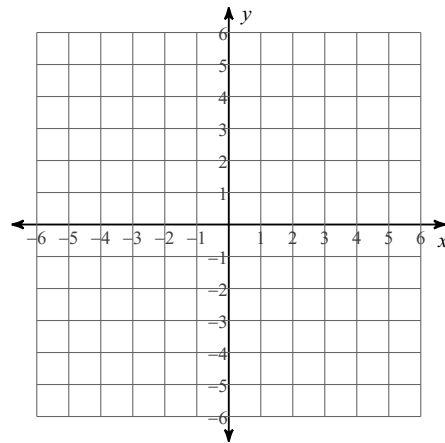


Sketch the graph of each linear inequality. Don't forget the shading! You may do so on this paper.

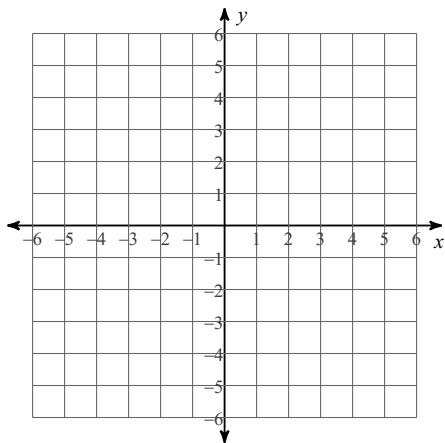
17)  $x < 3$



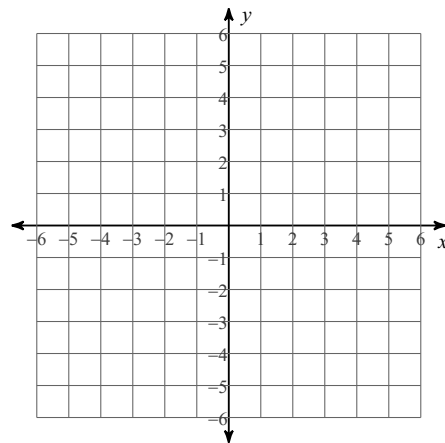
18)  $y \leq -\frac{4}{5}x + 2$



19)  $y \geq -\frac{7}{5}x + 2$



20)  $y > -\frac{5}{4}x + 3$



Simplify each sum by combining like terms. Complete on a separate sheet of paper.

21)  $-4m^3 + 3 - 5m^2 + 7m^3 + 7m + 3$

22)  $6 - 8a^3 + 8a + 8a + 2a^2 + 8$

23)  $m^3 - 5 + 3m - 6m^2 + 6m + 3m^3$

24)  $-3 + 4k + 5k^3 - 2 + 7k^3 - k$