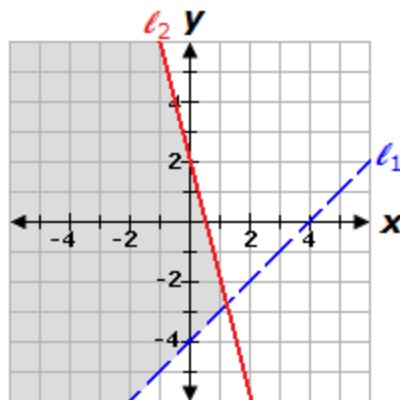


Name: _____

Systems of Inequalities

1. Which system of inequalities is represented by the graph below?



☐ A.
$$\begin{cases} y < x - 4 \\ y \geq -4x + 2 \end{cases}$$

☐ C.
$$\begin{cases} y > x - 4 \\ y \leq -\frac{1}{4}x + 2 \end{cases}$$

☐ B.
$$\begin{cases} y < x - 4 \\ y \geq -\frac{1}{4}x + 2 \end{cases}$$

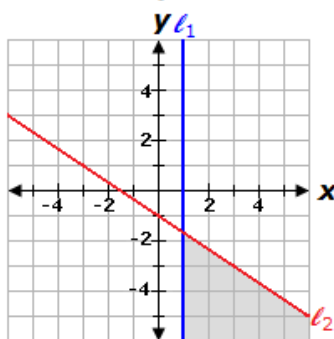
☐ D.
$$\begin{cases} y > x - 4 \\ y \leq -4x + 2 \end{cases}$$

2.
$$\begin{cases} y \geq -\frac{1}{3}x + 3 \\ y > \frac{3}{4}x - 1 \end{cases}$$

Which quadrants contain the solution to this system of inequalities?

- ☐ A. quadrants I, II, and IV
- ☐ B. quadrants I and II
- ☐ C. quadrants I and IV
- ☐ D. quadrants II and III

3. Which system of inequalities is



☐ A.
$$\begin{cases} y > 1 \\ y < -\frac{3}{2}x - 1 \end{cases}$$

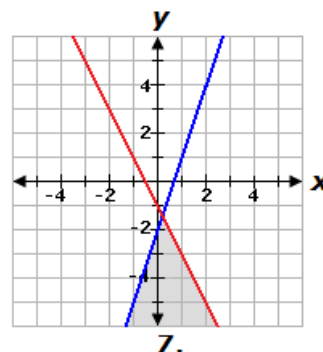
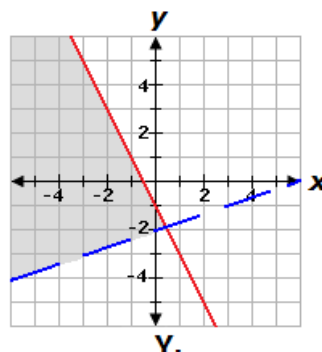
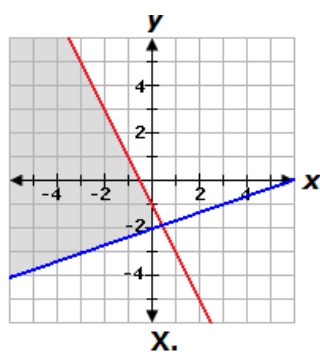
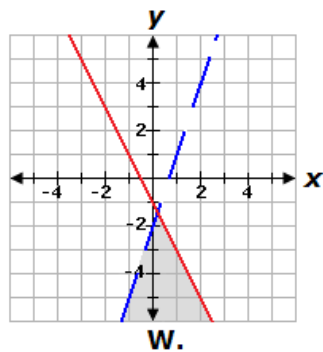
☐ B.
$$\begin{cases} y \leq 1 \\ y \geq -\frac{3}{2}x - 1 \end{cases}$$

☐ C.
$$\begin{cases} x > 1 \\ y < -\frac{2}{3}x - 1 \end{cases}$$

☐ D.
$$\begin{cases} x \geq 1 \\ y \leq -\frac{2}{3}x - 1 \end{cases}$$

4. Which graph represents the following system of inequalities?

$$\begin{cases} y > \frac{1}{3}x - 2 \\ y \leq -2x - 1 \end{cases}$$



5. Jenny is making jewelry for an arts and crafts show. She would like to make at least \$100 in sales. She estimates that she will sell at most 50 pieces of jewelry. The bracelets that she is selling cost \$2 and the necklaces cost \$3.

Which system of inequalities can be used to determine the number of bracelets (b) and the number of necklaces (n) she can sell?

☐ A. $b + n \leq 50$
 $2b + 3n \leq 100$

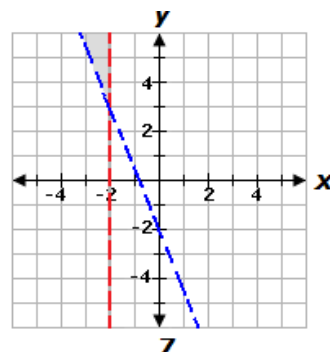
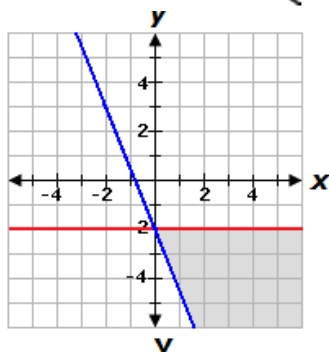
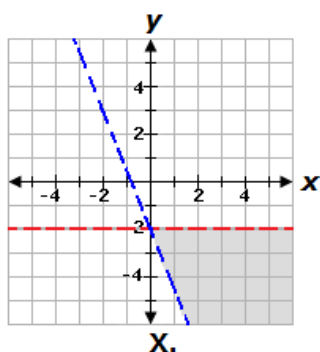
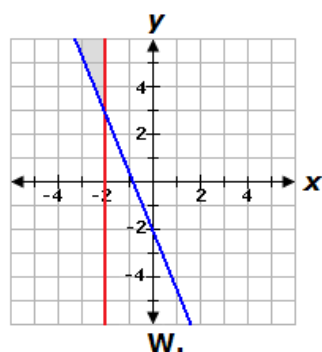
☐ C. $b + n \leq 50$
 $2b + 3n \geq 100$

☐ B. $b + n \leq 50$
 $3b + 2n \geq 100$

☐ D. $b + n \leq 50$
 $3b + 2n \leq 100$

6. Which graph represents the following system of inequalities?

$$\begin{cases} y > -\frac{5}{2}x - 2 \\ y < -2 \end{cases}$$



7. Directions: Select the correct graph.

Liam is planning a banquet for his parent's anniversary with a budget of \$3,375 at a hotel ballroom. The venue can hold no more than 125 guests. The cost per adult is \$45 and the cost per child is \$15. Select the graph having the shaded region that represents possible number of guests that could attend the banquet within the budget.

