Systems of Equations Review Name: _____

Do not solve problems 1-3, just set up the systems.

1) At a restaurant the cost for a breakfast taco and a small glass of milk is $2.10. The cost for 2 tacos and 3 small glasses of milk is $5.15. Use t and m as your variables.

2) The Frosty Ice-Cream Shop sells sundaes for $2 and banana splits for $3. On a hot summer day, the shop sold 8 more sundaes than banana splits and made $156.

3) Two numbers have a sum of 22. The larger number is 3 less than four times the smaller number.

4) Blanka and Chun-Li are working at rival martial arts dojos. Blanka charges a $130 membership fee for the month plus $4 per day for someone to train with him. Chun-Li charges $36.50 per day with no fee. If someone was choosing which dojo to train with, how many days would they have to train where the cost would be the same? Set up and solve a system, using C for final cost and d for the number of days training.

5) If a system of equations has no solution, what does that mean about the lines when graphed?

6) If a system of equations has an infinite number of solutions, what does that mean about the lines when graphed?

7) If a system of equations has one solution, what does that mean about the lines?

Use the following system of equations for questions 8 and 9.

$$x = -2y - 7$$
$$x + 5y = 20$$

8) What method would you use to solve the system? _____

9) What would the next step look like if you used the method you chose from question 8?

10) Which ordered pair is a solution of the system of inequalities?

$$-x + y < 2$$
$$-6x + y \leq -3$$

A $(0, 2)$ B. $(2,4)$ C. $(6, -1)$ D. $(1,3)$

11) To solve the system $\begin{cases} -5x + y = 9 \\ 3x - 2y = 10 \end{cases}$ by substitution, the most logical first step is to:

12) To solve the system $\begin{cases} -4x + 5y = -8 \\ 4x - 2y = -11 \end{cases}$ by elimination, the most logical first step to eliminate x is to:

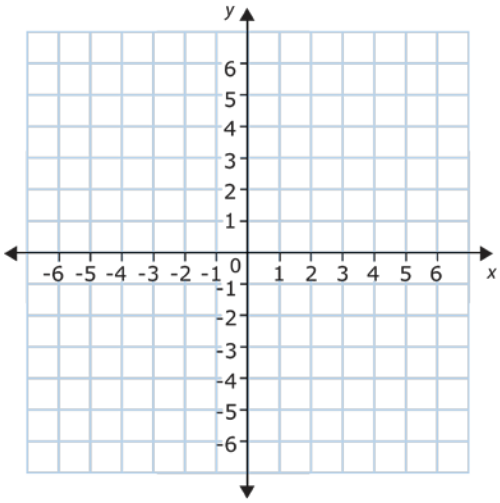
13) To solve the system $\begin{cases} -x - 5y = -2 \\ -3x - 2y = 1 \end{cases}$ by elimination, the most logical first step to eliminate y is to:

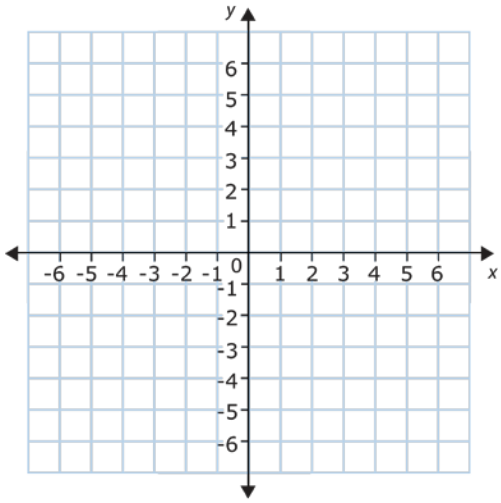
14) To solve the system $\begin{cases} 7x - 8y = 2 \\ -x - y = 0 \end{cases}$ by elimination, the most logical first step to eliminate x is to:

Graph the following systems of inequalities

15) $x \geq 2$
$y \leq -\frac{1}{2}x + 5$

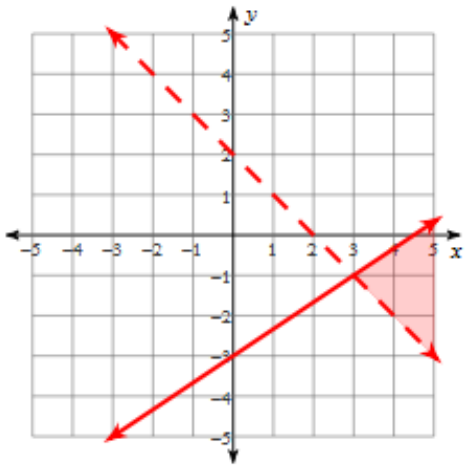
16) $y < -\frac{2}{3}x - 1$
$y \leq -\frac{2}{3}x + 4$





17) The following graph shows the solution to a system of inequalities. Circle ALL points that are solutions to the system.

$y \leq \frac{2}{3}x - 3$
$y > -x + 2$



i. $(4, -2)$ ii. $(3, -1)$ iii. $(4, -1)$

iv. $(5,0)$ v. $(5, -2)$ vi. $(7,1)$