

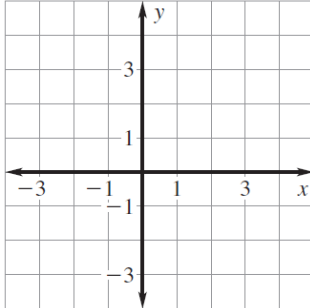
Review Lessons 3.1 & 3.2 Worksheet

Name: _____

Solve the linear system by graphing (show me how you graphed). Remember, you must check your solution algebraically. Then classify the system as *consistent and independent*, *consistent and dependent*, or *inconsistent*.

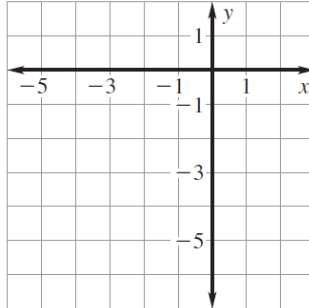
1.) $y = 3x$

$y = 4x - 1$



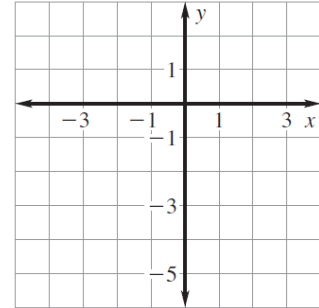
2.) $-2x + 6y = 6$

$3y + 15 = x$



3.) $-9x + 6y = -6$

$2x - 3y = 8$



solution: _____

solution: _____

solution: _____

classify: _____

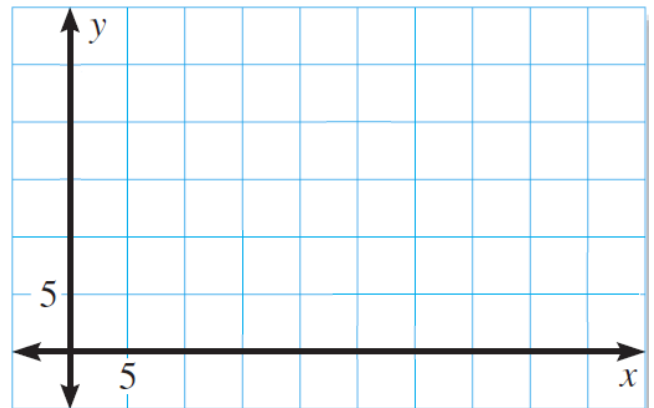
classify: _____

classify: _____

4.) A business rents in-line skates for \$15 and bicycles for \$30. During one day, the business has a total of 25 rentals and collects \$450 for the rentals. Find the number of pairs of skates rented and the number of bicycles rented.

a.) Write a linear system that represents the situation. Let x be the number of pairs of skates rented, and let y be the number of bicycles rented.

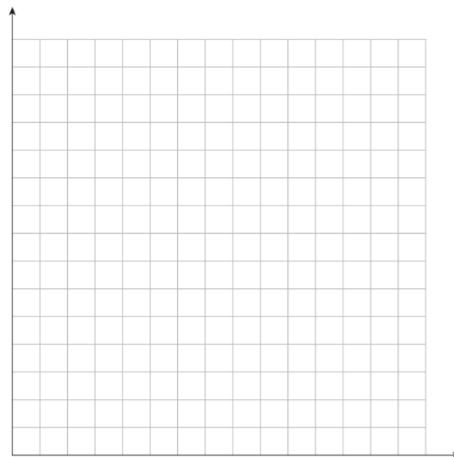
b.) Graph both equations to find your solution. Show what you used to graph. Notice the scale.



c.) How many in-line skates and bikes were rented on this particular day. Check your answer.

- 5.) The cost to join an art museum club is \$50. If you are a member you can take lessons at the museum for \$5 each. If you are not a member, lessons cost \$15 each. Write a linear system that represents the number of lessons x that can be taken for a total cost of y dollars. Solve your system graphically and check your solution.

After how many classes will the total cost for members and non-members be the same?



Solve the linear system using substitution.

$$\begin{aligned} 6.) \quad 4x + 3y &= 0 \\ 2x + y &= -2 \end{aligned}$$

$$\begin{aligned} 7.) \quad 4x + 6y &= 8 \\ y &= -\frac{2}{3}x + 1 \end{aligned}$$

$$\begin{aligned} 8.) \quad -3x - 4y &= 4 \\ 3x + 3y &= -3 \end{aligned}$$

$$\begin{aligned} 9.) \quad -2x + 6y &= 6 \\ -7x + 8y &= -5 \end{aligned}$$

Solve the linear system using elimination.

$$\begin{aligned} 10.) \quad 3 &= -5y + 2x \\ -4x + 10y &= -6 \end{aligned}$$

$$\begin{aligned} 11.) \quad 3x + 2y &= 5 \\ 5x - 9y &= -4 \end{aligned}$$

12.) $-3x - y = 8$
 $7x + 12 = -y$

13.) $11x - 20y = 28$
 $3x + 4y = 36$

14.) **Drum Sticks** A drummer is stocking up on drum sticks and brushes. The wood sticks that he buys are \$10.50 a pair and the brushes are \$24 a pair. He ends up spending \$90 on sticks and brushes and buys two times as many pairs of sticks as brushes. How many pairs of sticks and brushes did he buy?

15.) Two cars get an oil change at the same service center. Each customer is charged a fee x (in dollars) for the oil change plus y dollars per quart of oil used. The oil change for the car that requires 5 quarts of oil costs \$22.45. The oil change for the car that requires 7 quarts of oil costs \$25.45. Find the fee and the cost per quart of oil.

16.) During a football game, the parents of the football players sell pretzels and popcorn to raise money for new uniforms. They charge \$2.50 for a bag of popcorn and \$2 for a pretzel. The parents collect \$336 in sales during the game. They sell twice as many bags of popcorn as pretzels. How many bags of popcorn do they sell? How many pretzels do they sell?