

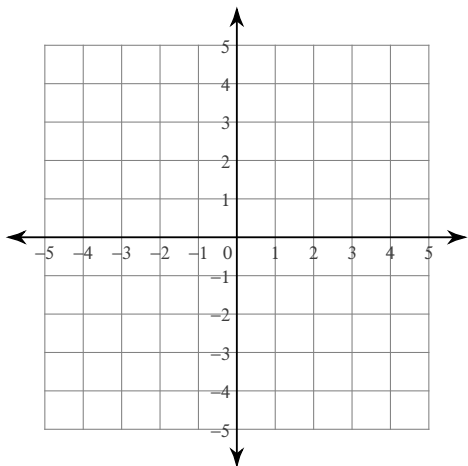
Unit 6 Problem Set C - Solving Systems of Equations

Date _____ Period _____

Solve each system by graphing.

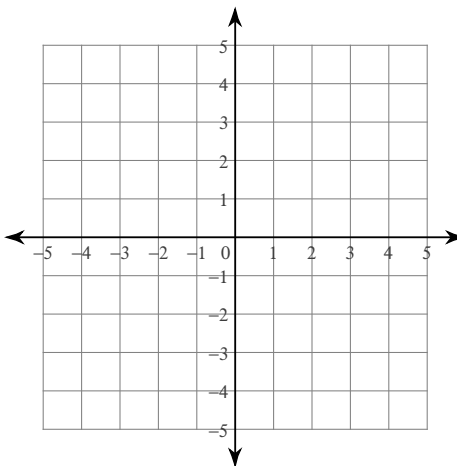
1) $y = -\frac{2}{3}x - 1$

$y = \frac{1}{3}x - 4$



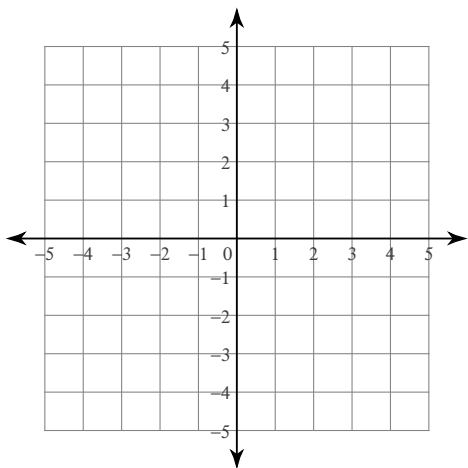
2) $y = -\frac{1}{2}x - 2$

$y = \frac{5}{2}x + 4$



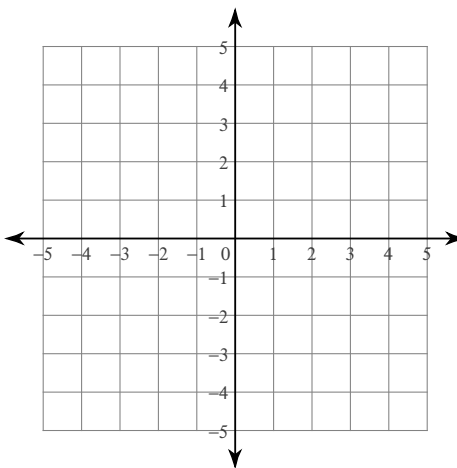
3) $2x + 3y = -6$

$2x + y = 2$



4) $2x + y = 1$

$x + 2y = -4$



Solve each system by substitution.

$$\begin{aligned} 5) \quad y &= x - 3 \\ y &= 3x + 7 \end{aligned}$$

$$\begin{aligned} 6) \quad y &= 6x + 6 \\ y &= -8x - 22 \end{aligned}$$

$$\begin{aligned} 7) \quad x + 4y &= -15 \\ 5x - 8y &= 9 \end{aligned}$$

$$\begin{aligned} 8) \quad x - 2y &= -2 \\ -2x + 4y &= 0 \end{aligned}$$

Solve each system by elimination.

$$\begin{aligned} 9) \quad 9x - 9y &= 18 \\ -9x + 6y &= 3 \end{aligned}$$

$$\begin{aligned} 10) \quad x + 2y &= 1 \\ -x + y &= 2 \end{aligned}$$

$$\begin{aligned} 11) \quad & -3x + 4y = 23 \\ & 2x + 4y = -2 \end{aligned}$$

$$\begin{aligned} 12) \quad & 8x - 10y = -4 \\ & 4x - 10y = -12 \end{aligned}$$

$$\begin{aligned} 13) \quad & -15x - 9y = 21 \\ & -5x + 10y = 20 \end{aligned}$$

$$\begin{aligned} 14) \quad & 18x + 9y = 27 \\ & 9x + y = -11 \end{aligned}$$

$$\begin{aligned} 15) \quad & 3x - 10y = 15 \\ & -2x - 4y = 22 \end{aligned}$$

$$\begin{aligned} 16) \quad & 7x - 2y = -21 \\ & -8x - 5y = 24 \end{aligned}$$

- 17) Darryl's school is selling tickets to a fall musical. On the first day of ticket sales the school sold 2 adult tickets and 3 student tickets for a total of \$54. The school took in \$144 on the second day by selling 7 adult tickets and 6 student tickets. Find the price of an adult ticket and the price of a student ticket.
- 18) Micaela and Kathryn each improved their yards by planting rose bushes and ivy. They bought their supplies from the same store. Micaela spent \$221 on 7 rose bushes and 12 pots of ivy. Kathryn spent \$158 on 10 rose bushes and 4 pots of ivy. Find the cost of one rose bush and the cost of one pot of ivy.

Answers to Unit 6 Problem Set C - Solving Systems of Equations (ID: 1)

- | | | | |
|--|---------------|---------------------------------------|----------------|
| 1) $(3, -3)$ | 2) $(-2, -1)$ | 3) $(3, -4)$ | 4) $(2, -3)$ |
| 5) $(-5, -8)$ | 6) $(-2, -6)$ | 7) $(-3, -3)$ | 8) No solution |
| 9) $(-5, -7)$ | 10) $(-1, 1)$ | 11) $(-5, 2)$ | 12) $(2, 2)$ |
| 13) $(-2, 1)$ | 14) $(-2, 7)$ | 15) $(-5, -3)$ | 16) $(-3, 0)$ |
| 17) adult ticket: \$12, student ticket: \$10 | | 18) rose bush: \$11, pot of ivy: \$12 | |