

Systems of Equations

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Solve each system by elimination.

$$\begin{aligned} 1) \quad & 5x - 2y = -6 \\ & -4x + 2y = 6 \end{aligned}$$

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

$$\begin{aligned} 3) \quad & -9x + 10y = -10 \\ & 6x - 20y = 20 \end{aligned}$$

$$\begin{aligned} 4) \quad & -6x - 4y = 10 \\ & 2x + 8y = -30 \end{aligned}$$

$$\begin{aligned} 5) \quad & 6 - 2y + 3x = 0 \\ & -\frac{17}{7} = -y + \frac{10}{7}x \end{aligned}$$

$$\begin{aligned} 6) \quad & -10y = -20 - 11x \\ & 9y = -4x + 18 \end{aligned}$$

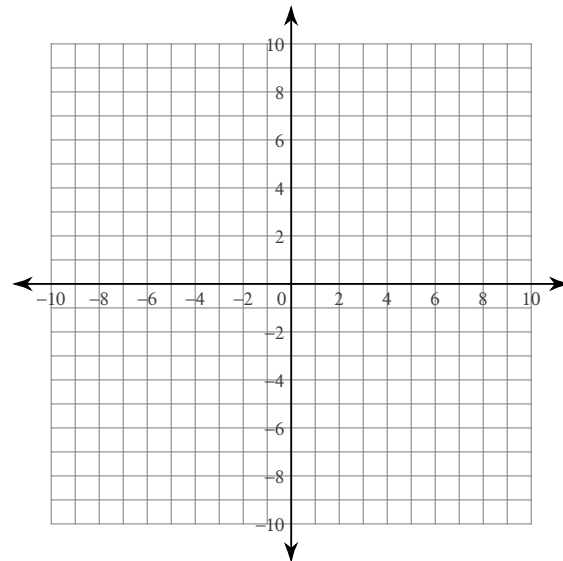
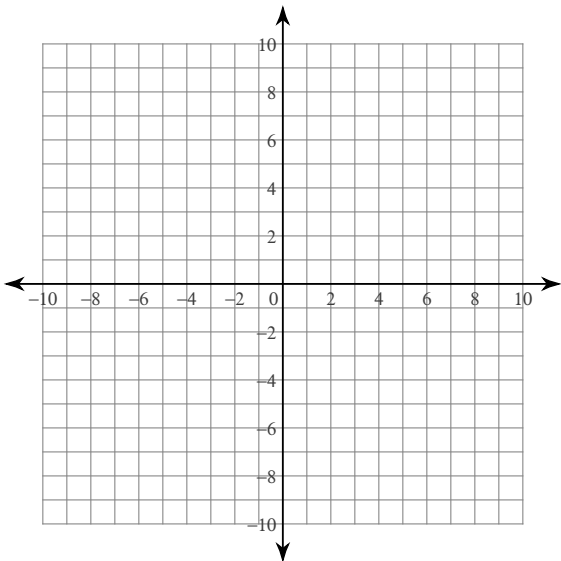
Solve each system by graphing.

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

$$\begin{aligned} 8) \quad & x + 3y = 9 \\ & 5x + 3y = -3 \end{aligned}$$

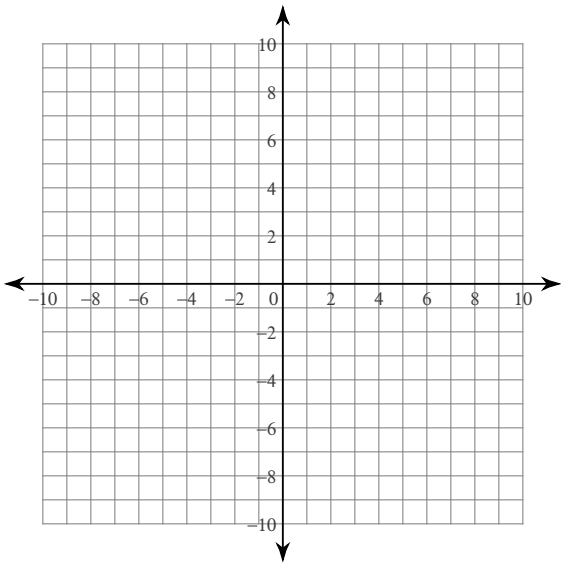
$$\begin{aligned} 9) \quad & -2 = 2y + 3x \\ & 3y + x = 18 \end{aligned}$$

$$\begin{aligned} 10) \quad & x + 2y = -8 \\ & x + 2y = -10 \end{aligned}$$



$$\begin{aligned} 11) \quad & -x + y = -7 \\ & y = 9 - 7x \end{aligned}$$

$$12) \begin{aligned} -4y + 3x &= 20 \\ 4y + 4 + x &= 0 \end{aligned}$$



Solve each system by substitution.

$$13) \begin{aligned} x + 3y &= 11 \\ 7x + 4y &= 9 \end{aligned}$$

$$14) \begin{aligned} -7x - 4y &= 4 \\ 5x + 7y &= 22 \end{aligned}$$

$$15) \begin{aligned} -2x + y &= 1 \\ -4x - 3y &= 7 \end{aligned}$$

$$16) \begin{aligned} -x - 2y &= 7 \\ x + 2y &= 5 \end{aligned}$$

$$17) \begin{aligned} -10x + 14y &= 24 \\ 5x - 7y &= -12 \end{aligned}$$

$$18) \begin{aligned} 6x + 7y &= 20 \\ y &= x + 1 \end{aligned}$$

19) The school that Jill goes to is selling tickets to a choral performance. On the first day of ticket sales the school sold 3 senior citizen tickets and 2 child tickets for a total of \$42. The school took in \$36 on the second day by selling 2 senior citizen tickets and 2 child tickets. What is the price each of one senior citizen ticket and one child ticket?

20) The difference of two numbers is 3. Their sum is 13. Find the numbers.