

6.2.D2 - LINEAR COMBINATIONS METHOD

Solve each system of equations using the linear combinations method. Write your solution as an ordered pair (x, y) . Refer to the 6.2 example "Solving a System of Equations Using the Linear Combinations Method" in the Chapter 6 Summary.

1.
$$\begin{aligned} 4x - y &= 2 \\ 2x + 2y &= 26 \end{aligned}$$

2.
$$\begin{aligned} 10x - 6y &= -6 \\ 5x - 5y &= 5 \end{aligned}$$

3.
$$\begin{aligned} x + 6y &= 11 \\ 2x - 12y &= 10 \end{aligned}$$

4.
$$\begin{aligned} 2x + 3y &= 12 \\ 5x - y &= 13 \end{aligned}$$

5.
$$\begin{aligned} -2x + 5y &= -17 \\ 3x - 10y &= 28 \end{aligned}$$

6.
$$\begin{aligned} 5x + 2y &= -1 \\ 3x + 7y &= 11 \end{aligned}$$

Solve each system of equations by substitution. Write your solution as an ordered pair (x, y) . Refer to the 6.1 example "Solving Systems of Linear Equations Using the Substitution Method" in the Chapter 6 Summary.

7. $2y = -3x$
 $y = -2x + 2$

8. $x = y - 7$
 $-y - 2x = 8$

Define variables and write a system of equations (in standard form) to represent each situation. Solve each system of equations using the linear combinations method. Write your solution as an ordered pair (x, y) . Refer to the 6.2 example "Solving a System of Equations Using the Linear Combinations Method" in the Chapter 6 Summary.

9. Jason and Jerry are competing at a weightlifting competition. They are both lifting barbells containing 200 pounds of plates (weights). Jason's barbell has 4 large and 10 small plates on it. Jerry's barbell has 6 large and 5 small plates on it. How much does each large plate and each small plate weigh?

Let $x =$ _____ & $y =$ _____

Jason's equation: _____ & Jerry's equation: _____

Solve the system of equations:

Interpret the solution of the linear system in terms of the problem situation.

10. Asina works on a shipping dock at a tire manufacturing plant. She loads a pallet with 4 Mudslinger tires and 6 Roadripper tires. The tires on the pallet weigh 212 pounds. She loads a second pallet with 7 Mudslinger tires and 2 Roadripper tires. The tires on the second pallet weigh 184 pounds. How much does each Mudslinger tire and each Roadripper tire weigh?

Let $x =$ _____ & $y =$ _____

Pallet 1's equation: _____ & Pallet 2's equation: _____

Solve the system of equations:

Interpret the solution of the linear system in terms of the problem situation.