

Linear Combinations/Elimination Method

Write a system of equations to represent each problem situation. Solve the system of equations using the linear combinations/elimination method.

1. The high school marching band is selling fruit baskets as a fundraiser. They sell a large basket containing 10 apples and 15 oranges for \$20. They sell a small basket containing 5 apples and 6 oranges for \$8.50. **How much is the marching band charging for each apple and each orange?**

2. Asna 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?**

Solve each system of equations using the linear combinations method.

3.
$$\begin{cases} 3x + 5y = 8 \\ 2x - 5y = 22 \end{cases}$$

4.
$$\begin{cases} 4x - y = 2 \\ 2x + 2y = 26 \end{cases}$$

5.
$$\begin{cases} 10x - 6y = -6 \\ 5x - 5y = 5 \end{cases}$$

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

7.
$$\begin{cases} 2x - 4y = 4 \\ -3x + 10y = 14 \end{cases}$$

8.
$$\begin{cases} \frac{3}{4}x + \frac{1}{2}y = -\frac{3}{4} \\ \frac{2}{3}x + \frac{2}{3}y = \frac{2}{3} \end{cases}$$

9. The Pizza Barn sells one customer 3 large pepperoni pizzas and 2 orders of breadsticks for \$30. They sell another customer 4 large pepperoni pizzas and 3 orders of breadsticks for \$41. **How much does the Pizza Barn charge for each pepperoni pizza and each order of breadsticks?**