

Solving Linear Systems Using Elimination

Period _____ Group _____

Solve each system by elimination.

1)
$$\begin{aligned} -6x + 9y &= 0 \\ 6x - 6y &= -6 \end{aligned}$$

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

3)
$$\begin{aligned} x + 6y &= 10 \\ 5x + 3y &= 23 \end{aligned}$$

4)
$$\begin{aligned} 7x - 10y &= 14 \\ -14x + 20y &= -28 \end{aligned}$$

5)
$$\begin{aligned} -6x - 4y &= 24 \\ 3x + 2y &= -17 \end{aligned}$$

6)
$$\begin{aligned} 20x - 12y &= 16 \\ -10x + 6y &= 2 \end{aligned}$$

7)
$$\begin{aligned} 9x - 3y &= -21 \\ -18x - 4y &= -28 \end{aligned}$$

8)
$$\begin{aligned} 4x + 6y &= 24 \\ -8x + 10y &= -4 \end{aligned}$$

9)
$$\begin{aligned} 8x + 2y &= -24 \\ 10x + 3y &= -26 \end{aligned}$$

10)
$$\begin{aligned} -4x + 3y &= -12 \\ 9x - 4y &= 16 \end{aligned}$$

11)
$$\begin{aligned} 8x + 6y &= 20 \\ 7x + 9y &= -20 \end{aligned}$$

12)
$$\begin{aligned} -10x - 10y &= 20 \\ -3x - 7y &= 30 \end{aligned}$$

13)
$$\begin{aligned} 9x + 10y &= 20 \\ 5x + 8y &= -6 \end{aligned}$$

14)
$$\begin{aligned} 3x - 5y &= 26 \\ -5x + 2y &= 1 \end{aligned}$$

- 15) Darryl and Shayna are selling fruit for a school fundraiser. Customers can buy small boxes of tangerines and large boxes of tangerines. Darryl sold 4 small boxes of tangerines and 6 large boxes of tangerines for a total of \$98. Shayna sold 14 small boxes of tangerines and 12 large boxes of tangerines for a total of \$226. What is the cost each of one small box of tangerines and one large box of tangerines?
- 16) Molly and Jennifer each improved their yards by planting rose bushes and geraniums. They bought their supplies from the same store. Molly spent \$73 on 1 rose bush and 7 geraniums. Jennifer spent \$105 on 6 rose bushes and 5 geraniums. Find the cost of one rose bush and the cost of one geranium.
- 17) The school that Stefan goes to is selling tickets to a spring musical. On the first day of ticket sales the school sold 4 adult tickets and 2 child tickets for a total of \$54. The school took in \$227 on the second day by selling 12 adult tickets and 11 child tickets. Find the price of an adult ticket and the price of a child ticket.
- 18) The indoor climbing gym is a popular field trip destination. This year the senior class at High School A and the senior class at High School B both planned trips there. The senior class at High School A rented and filled 14 vans and 2 buses with 226 students. High School B rented and filled 7 vans and 8 buses with 414 students. Every van had the same number of students in it as did the buses. Find the number of students in each van and in each bus.
- 19) Find the value of two numbers if their sum is 22 and their difference is 2.
- 20) Going down the river a boat went 19 km/h. Going up the river it only went 5 km/h. What is the speed of the current? How fast would the boat go if there were no current?