

7-3

Practice (Average)

Elimination Using Addition and Subtraction

Use elimination to solve each system of equations.

$$\begin{aligned} 1. \quad x - y &= 1 \\ x + y &= -9 \end{aligned}$$

$$(-4, -5)$$

$$\begin{aligned} 2. \quad p + q &= -2 \\ p - q &= 8 \end{aligned}$$

$$(3, -5)$$

$$\begin{aligned} 3. \quad 4x + y &= 23 \\ 3x - y &= 12 \end{aligned}$$

$$(5, 3)$$

$$\begin{aligned} 4. \quad 2x + 5y &= -3 \\ 2x + 2y &= 6 \end{aligned}$$

$$(6, -3)$$

$$\begin{aligned} 5. \quad 3x + 2y &= -1 \\ 4x + 2y &= -6 \end{aligned}$$

$$(-5, 7)$$

$$\begin{aligned} 6. \quad 5x + 3y &= 22 \\ 5x - 2y &= 2 \end{aligned}$$

$$(2, 4)$$

$$\begin{aligned} 7. \quad 5x + 2y &= 7 \\ -2x + 2y &= -14 \end{aligned}$$

$$(3, -4)$$

$$\begin{aligned} 8. \quad 3x - 9y &= -12 \\ 3x - 15y &= -6 \end{aligned}$$

$$(-7, -1)$$

$$\begin{aligned} 9. \quad -4c - 2d &= -2 \\ 2c - 2d &= -14 \end{aligned}$$

$$(-2, 5)$$

$$\begin{aligned} 10. \quad 2x - 6y &= 6 \\ 2x + 3y &= 24 \end{aligned}$$

$$(9, 2)$$

$$\begin{aligned} 11. \quad 7x + 2y &= 2 \\ 7x - 2y &= -30 \end{aligned}$$

$$(-2, 8)$$

$$\begin{aligned} 12. \quad 4.25x - 1.28y &= -9.2 \\ x + 1.28y &= 17.6 \end{aligned}$$

$$(1.6, 12.5)$$

$$\begin{aligned} 13. \quad 2x + 4y &= 10 \\ x - 4y &= -2.5 \end{aligned}$$

$$(2.5, 1.25)$$

$$\begin{aligned} 14. \quad 2.5x + y &= 10.7 \\ 2.5x + 2y &= 12.9 \end{aligned}$$

$$(3.4, 2.2)$$

$$\begin{aligned} 15. \quad 6m - 8n &= 3 \\ 2m - 8n &= -3 \end{aligned}$$

$$\left(1\frac{1}{2}, \frac{3}{4}\right)$$

$$\begin{aligned} 16. \quad 4a + b &= 2 \\ 4a + 3b &= 10 \end{aligned}$$

$$\left(-\frac{1}{2}, 4\right)$$

$$\begin{aligned} 17. \quad -\frac{1}{3}x - \frac{4}{3}y &= -2 \\ \frac{1}{3}x - \frac{2}{3}y &= 4 \end{aligned}$$

$$\frac{1}{3}x - \frac{2}{3}y = 4$$

$$(10, -1)$$

$$\begin{aligned} 18. \quad \frac{3}{4}x - \frac{1}{2}y &= 8 \\ \frac{3}{2}x + \frac{1}{2}y &= 19 \end{aligned}$$

$$\frac{3}{2}x + \frac{1}{2}y = 19$$

$$(12, 2)$$

19. The sum of two numbers is 41 and their difference is 5. What are the numbers? **18, 23**

20. Four times one number added to another number is 36. Three times the first number minus the other number is 20. Find the numbers. **8, 4**

21. One number added to three times another number is 24. Five times the first number added to three times the other number is 36. Find the numbers. **3, 7**

22. **LANGUAGES** English is spoken as the first or primary language in 78 more countries than Farsi is spoken as the first language. Together, English and Farsi are spoken as a first language in 130 countries. In how many countries is English spoken as the first language? In how many countries is Farsi spoken as the first language?

English: 104 countries, Farsi: 26 countries

23. **DISCOUNTS** At a sale on winter clothing, Cody bought two pairs of gloves and four hats for \$43.00. Tori bought two pairs of gloves and two hats for \$30.00. What were the prices for the gloves and hats? **gloves: \$8.50, hats: \$6.50.**