**2.5 - Solving Systems of Equations Algebraically ⸱ Form A**

**Examples 1 and 2**

**Use substitution to solve each system of equations.**

 **1.** 2*x* ‒ *y* = 7 **2.** 3*x* + *y* = 7  **3.** 2*x* + *y* = 8

 6*x* ‒ 3*y* = 14 4*x* + 2*y* = 163*x* + $\frac{3}{2}y$ = 12

**Example 3**

**Solve each problem.**

 **4. STOCKS** Ms. Patel invested a total of $825 in two stocks. At the time of her investment, one share of Stock A was valued at $12.41 and a share of Stock B was valued at $8.62. She purchased a total of 79 shares.

 **a.** Write a system of equations and solve by substitution.

 **b.** How many shares of each stock did Ms. Patel buy? How much did she invest in each of the two stocks?

**Examples 4-6**

**Use elimination to solve each system of equations.**

 **5.** 5*x* + 2*y* = 12 **6. 3***x* – 5*y* = –9 **7.** 6*w* – 8*z* = 16

‒6*x* ‒ 2*y* = ‒14 ‒7*x* + 3*y* = 83*w* – 4*z* = 8

**Mixed Exercises**

**Use substitution or elimination to solve each system of equations.**

 **8.** *h* ‒ *z* = 3 **9.** 3*r* – 2*t* = 1 **10.** 4*m* – 2*p* = 0

‒3*h* + 3*z* = 62*r* – 3*t* = 9–3*m* + 9*p* = 5

**11.** Twice a number minus a second number is ‒1. Twice the second number added to three times the first number is 9. Find the two numbers.

**12. USE A MODEL** The Newton City Park has 11 basketball courts, which are all in use. There are 54 people playing basketball. Some are playing one-on-one, and some are playing in teams. A one-on-one game requires 2 players, and a team game requires 10 players.

 **a.** Write a system of equations that represents the number of one-on-one and team games being played.

 **b.** Solve the system of equations and interpret your results.

**13. FIND THE ERROR** Gloria and Syreeta are solving the system 6*x* ‒ 4*y* = 26 and ‒3*x* + 4*y* = ‒17. Is either of them correct? Explain your reasoning.

 

 **14. WRITE** Why is substitution sometimes more helpful than elimination?