Name:_____ Date:_____
Algebra 1 Band:_____

LT#3: Solve systems of equations using substitution.

Solve each system by substitution. Check your solution.

1. $\begin{cases} x = y \\ x + 2y = 3 \end{cases}$

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

3. $\begin{cases} y = 2x - 10 \\ 2y = x - 8 \end{cases}$

4. $\begin{cases} 2y = x + 1 \\ -2x - y = 7 \end{cases}$

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

6. $\begin{cases} 2x - 3y = 13 \\ y = \frac{1}{2}x - \frac{7}{2} \end{cases}$

7. $\begin{cases} -3x - 2y = 5.5 \\ x + 3y = 7.5 \end{cases}$

8. $\begin{cases} 6x - 4y = 54 \\ -9x + 2y = -69 \end{cases}$

9. $\begin{cases} y = -\frac{x}{2} - 4 \\ -2x - y = -5 \end{cases}$

10. Jake purchased 8 T-shirts and 5 pairs of pants for $220. The next day, he purchased 5 T-shirts and 1 pair of pants for $112. How much does each T-shirt and each pair of pants cost?

11. Matt bought 1 box of crayons and 5 reams of paper for $54. He bought 5 boxes of crayons and 3 reams of paper for $50. What is the cost of each box of crayons and each ream of paper?

12. Suppose you got 8 mangoes and 3 apples for $18 and 3 mangoes and 5 apples for $14.50. How much does each mango and each apple cost?

13. Tia purchased 4 tables and 2 chairs for $200 and 2 tables and 7 chairs for $400. What is the cost of each table and chair?

Solve each system by substitution. Tell whether the system has *one solution*, *infinitely many solutions*, or *no solution.*

14. $\begin{cases} 7x + 2y = -13 \\ -3x - 8y = -23 \end{cases}$

15. $\begin{cases} x - 9y = -10 \\ 6x + y = -5 \end{cases}$

16. $\begin{cases} x = \frac{y}{4} + 1 \\ y = 4x - 5 \end{cases}$

17. $\begin{cases} x - 2y - 1 = 0 \\ y - 5x + 14 = 0 \end{cases}$

18. $\begin{cases} y = -8x - 37 \\ x + 3y = 4 \end{cases}$

19. $\begin{cases} 3x + 6y = 18 \\ 3y = -\frac{3}{2}x + 9 \end{cases}$

20. $\begin{cases} 5x - 9y = 29 \\ 12x + y = 47 \end{cases}$

21. $\begin{cases} 2x = 3y - 9 \\ -3x + y = 10 \end{cases}$

22. $\begin{cases} 5y = 7x + 22 \\ x = -6y + 17 \end{cases}$

23. $\begin{cases} x = 6y + 16 \\ 9x - 2y = -12 \end{cases}$

24. $\begin{cases} 4x - y - 4 = 0 \\ 3x + 2y - 14 = 0 \end{cases}$

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