Solve the system using the substitution method.

1. \( x + 3y = 5 \)
   \( 2x - 3y = 1 \)

2. \( 2x + y = 6 \)
   \( 3x + 5y = 9 \)

3. \( 3x - 7y = 10 \)
   \( x - 4y = 5 \)

4. \( 5x - 2y = -20 \)
   \( 6x + y = -7 \)

5. \( x - y = 12 \)
   \( 2x + 3y = -1 \)

6. \( -4x + y = 8 \)
   \( x - 3y = 9 \)

7. \( 3x + y = 6 \)
   \( 2x - 4y = 10 \)

8. \( 4x + 6y = 8 \)
   \( 3x + y = 9 \)

9. \( x - 7y = 12 \)
   \( 2x + 8y = 14 \)

Solve the system using the linear combination method.

10. \( 4x + 2y = 2 \)
    \( 5x - 2y = -11 \)

11. \( 7x + 3y = -12 \)
    \( -7x + 2y = -8 \)

12. \( 6x - 7y = 4 \)
    \( x + 7y = 17 \)

13. \( 6x + 3y = -15 \)
    \( -6x + 5y = 7 \)

14. \( x + 2y = 7 \)
    \( x - 2y = 5 \)

15. \( 2x + y = -2 \)
    \( -2x + 5y = -16 \)

Solve the system using any algebraic method.

16. \( x + 2y = 7 \)
    \( 3x + 5y = 17 \)

17. \( x + 3y = 8 \)
    \( 4x - 3y = 2 \)

18. \( x + y = 9 \)
    \( x - y = 1 \)

19. \( x + y = 4 \)
    \( -x + 2y = 17 \)

20. \( 3x + 4y = 0 \)
    \( 9x - 4y = 0 \)

21. \( 2x + y = 0 \)
    \( -2x + y = -4 \)

22. \( 2x - 5y = 4 \)
    \( 3x + 4y = 9 \)

23. \( 5x + 7y = 12 \)
    \( 3x - 2y = 8 \)

24. \( 3x - 4y = 6 \)
    \( 4x + 7y = 1 \)

25. \( 4x + 7y = -10 \)
    \( 3x - 7y = -4 \)

26. \( -2x + 3y = 8 \)
    \( x - 5y = -4 \)

27. \( 6x + y = 0 \)
    \( 15x + 2y = 9 \)

28. **Band Competition**  The band boosters are organizing a trip to a national competition for the 226-member marching band. A bus will hold 70 students and their instruments. A van will hold 8 students and their instruments. A bus costs $280 to rent for the trip. A van costs $70 to rent for the trip. The boosters have $980 to use for transportation. Use the verbal model below to write a system of equations whose solution is how many buses and vans should be rented. Solve the system.

\[
\begin{align*}
\text{Students per bus} \cdot \text{Number of buses} + \text{Students per van} \cdot \text{Number of vans} &= \text{Students on trip} \\
\text{Price per bus} \cdot \text{Number of buses} + \text{Price per van} \cdot \text{Number of vans} &= \text{Cost of transportation}
\end{align*}
\]