Algebra I

Worksheet 6.2

Name _____

Solve for the indicated variable.

1. $9x + y = 7; y$

2. $3x - y = 10; y$

3. $x - 4y = 1; x$

4. $3x + 6y = 9; x$

5. $2x - 2y = 8; y$

6. $\frac{1}{2}x - 3y = 7; x$

Tell which equation you would use to isolate a variable. *Explain* your reasoning.

7. $x = 5y - 8$
$4x + 3y = 5$

8. $-3x + 2y = 7$
$y = 6x + 1$

9. $4 + 8x = y$
$6x - y = 2$

10. $-x + y = 8$
$2y - 3x = 5$

11. $x + 4y = -2$
$3x - y = 1$

12. $2x = 4y + 2$
$-5x + 5y = 13$

Solve the linear system by using substitution.

13. $x = 1 - y$
$y = 2x - 2$

14. $x = 4y + 14$
$y = -3x + 3$

15. $y = -3x - 1$
$4x + 3y = 2$

16. $y = -2x + 4$
$5y - 2x = -16$

17. $4x - 2y = 14$
$x = 10 - 6y$

18. $x + 2y = 6$
$-7x + 3y = -8$

19. $-8x + 3y = -33$
$5x + y = 35$

20. $x + 2y = 11$
$3x - 4y = -17$

21. $-3x + y = 8$
$x + 2y = -5$

22. $x + y = 3$
$3x - 4y = -19$

23. $x - y = 0$
$2x + 4y = 18$

24. $2x + 2y = 6$
$3x - 5y = 25$

25. Driving Your brother and sister took turns driving on a 635-mile trip that took 11 hours to complete. Your brother drove at a constant speed of 60 miles per hour and your sister drove at a constant speed of 55 miles per hour. Let x be the number of miles your brother drove and let y be the number of miles your sister drove. Solve the linear system $x + y = 11$ and $60x + 55y = 635$ to find the number of miles each of your siblings drove.