Solving Systems of Equations Algebraically

Solve each system of equations by using substitution.

1.
$$a + b = 20$$

 $a - b = -4$

$$2. x + 3y = -3 4x + 3y = 6$$

$$3. w - z = 1 2w + 3z = 12$$

4.
$$3r + t = 5$$

 $2r - t = 5$

$$5.2b + 3c = -4$$

 $b + c = 3$

$$6. x - y = -5 \\ 3x + 4y = 13$$

Solve each system of equations by using elimination.

7.
$$2t - u = 17$$

 $3t + u = 8$

8.
$$2j - k = 3$$

 $3j + k = 2$

$$9. 3c - 2d = 2 \\
3c + 4d = 50$$

10.
$$2f + 3g = 9$$

 $f - g = 2$

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

$$12. 2x - y = 12 2x - y = 6$$

Solve each system of equations.

13.
$$-r + t = 5$$

 $-2r + t = 4$

14.
$$2x - y = -5$$

 $4x + y = 2$

$$16. 2p - 3r = 6$$
$$-2p + 3r = -6$$

$$17. 6w - 8z = 16$$
$$3w - 4z = 8$$

18.
$$c + d = 6$$
 $c - d = 0$

$$19. \, 2u + 4x = -6$$
$$u + 2x = 3$$

20.
$$3a + b = -1$$

 $-3a + b = 5$

21.
$$2x + y = 6$$

 $3x - 2y = 16$

22.
$$3y - z = -6$$

 $-3y - z = 6$

23.
$$c + 2d = -2$$

 $-2c - 5d = 3$

24.
$$3r - 2t = 1$$

 $2r - 3t = 9$