

Review of Equations

Date_____ Period_____

Solve each equation.

1) $3n + 4n = -14$

2) $9 = -7m + 1 - 6$

3) $-24 = 5r + 3r$

4) $-6x - 6x = 12$

5) $-36 = 6(2 - 8n)$

6) $-6 + 5(-1 - b) = 19$

7) $-14 = -(-2x + 2)$

8) $51 = 7(-1 + 2v) + 2$

9) $7(1 + 5n) + 6(1 + 4n) = 13$

10) $73 = -6(k - 7) + 6(k + 5)$

11) $-6(3 - 3a) - 8(6a + 5) = 32$

12) $-9 + 4r = 4r - 3 - 6$

13) $6x - 2x + 8 = x + 5$

14) $4n + 5n + 15 = 5n + 7n$

$$15) 4m + 3 = 13 - m$$

$$16) 5p + 5 = 4 + 4p$$

$$17) 8 + 6x = 8 + 8x + 7 + 3$$

$$18) -5b + 24 = -8(b - 6) + 6b$$

$$19) 3(7r - 7) = -6 + 6r$$

$$20) -(1 - 5x) + 8 = -17 + 2x$$

$$21) -5n - 4(-7 - 4n) = 36 + 7n$$

$$22) 2(-7a + 6) = -16 - 7a$$

$$23) -8(2 + 7n) = -6n + 34$$

$$24) -7(x + 3) = -2(x + 3) - 5x$$

$$25) -4(v - 2) = -4(v - 8) - 8v$$

$$26) 2(x + 8) = -3(x + 3)$$

$$27) -7(-1 + 3a) = 5(3 - 5a)$$

$$28) 4k + 7(-4 - 2k) = -2(k - 2)$$

Review of Equations

Date _____ Period _____

Solve each equation.

1) $3n + 4n = -14$

$$\begin{array}{r} 7n = -14 \\ 7 \quad 7 \\ \hline n = -2 \end{array}$$

3) $-24 = 5r + 3r$

$$\begin{array}{r} -24 = 8r \\ 8 \quad 8 \\ \hline -3 = r \end{array}$$

5) $-36 = 6(2 - 8n)$

$$\begin{array}{r} -36 = 12 - 48n \\ -12 \quad -12 \\ \hline -48 = -48n \\ -48 \quad -48 \\ \hline 1 = n \end{array}$$

7) $-14 = -(-2x + 2)$

$$\begin{array}{r} -14 = 2x - 2 \\ + 2 \quad + 2 \\ \hline -12 = 2x \\ 2 \quad 2 \\ \hline -6 = x \end{array}$$

9) $7(1 + 5n) + 6(1 + 4n) = 13$

$$\begin{array}{r} 7 + 35n + 6 + 24n = 13 \\ 13 + 59n = 13 \\ -13 \quad -13 \\ \hline 59n = 0 \\ 59 \quad 59 \\ \hline n = 0 \end{array}$$

11) $-6(3 - 3a) - 8(6a + 5) = 32$

$$\begin{array}{r} -18 + 18a - 48a - 40 = 32 \\ -30a - 58 = 32 \\ +58 \quad +58 \\ \hline -30a = 90 \\ -30 \quad -30 \\ \hline a = -3 \end{array}$$

13) $6x - 2x + 8 = x + 5$

$$\begin{array}{r} 4x + 8 = x + 5 \\ -x \quad -x \\ \hline 3x + 8 = 5 \\ -8 \quad -8 \\ \hline 3x = -3 \\ 3 \quad 3 \\ \hline x = -1 \end{array}$$

2) $9 = -7m + 1 - 6$

$$\begin{array}{r} 9 = -7m - 5 \\ +5 \quad +5 \\ \hline 14 = -7m \\ -7 \quad -7 \\ \hline -2 = m \end{array}$$

4) $-6x - 6x = 12$

$$\begin{array}{r} -12x = 12 \\ -12 \quad -12 \\ \hline x = -1 \end{array}$$

6) $-6 + 5(-1 - b) = 19$

$$\begin{array}{r} -6 - 5 - 5b = 19 \\ -11 - 5b = 19 \\ +11 \quad +11 \\ \hline -5b = 30 \\ -5 \quad -5 \\ \hline b = -6 \end{array}$$

8) $51 = 7(-1 + 2v) + 2$

$$\begin{array}{r} 51 = -7 + 14v + 2 \\ 51 = -5 + 14v \\ +5 \quad +5 \\ \hline 56 = 14v \\ 14 \quad 14 \\ \hline 4 = v \end{array}$$

10) $73 = -6(k - 7) + 6(k + 5)$

$$\begin{array}{r} 73 = -6k + 42 + 6k + 30 \\ 73 = 72 \\ 73 \neq 72 \text{ no solution} \end{array}$$

12) $-9 + 4r = 4r - 3 - 6$

$$\begin{array}{r} -9 + 4r = 4r - 9 \\ +4r \quad -4r \\ \hline -9 = -9 \text{ infinite solutions} \end{array}$$

14) $4n + 5n + 15 = 5n + 7n$

$$\begin{array}{r} 9n + 15 = 12n \\ -9n \quad -9n \\ \hline 15 = 3n \\ 3 \quad 3 \\ \hline 5 = n \end{array}$$

$$15) 4m + 3 = 13 - m$$

$$\begin{array}{r} +m \quad +m \\ 5m + 3 = 13 \\ -3 \quad -3 \\ \hline 5m = 10 \\ \frac{5m}{5} = \frac{10}{5} \\ m = 2 \end{array}$$

$$17) 8 + 6x = 8 + 8x + 7 + 3$$

$$\begin{array}{r} 8 + 6x = 8x + 18 \\ -6x \quad -6x \\ \hline 8 = 2x + 18 \\ -18 \quad -18 \\ \hline -10 = 2x \\ \frac{-10}{2} = \frac{2x}{2} \quad x = -5 \end{array}$$

$$19) 3(7r - 7) = -6 + 6r$$

$$\begin{array}{r} 21r - 21 = -6 + 6r \\ -6r \quad -6r \\ \hline 15r - 21 = -6 \\ +21 \quad +21 \\ \hline 15r = 15 \\ \frac{15r}{15} = \frac{15}{15} \quad r = 1 \end{array}$$

$$21) -5n - 4(-7 - 4n) = 36 + 7n$$

$$\begin{array}{r} -5n + 28 + 16n = 36 + 7n \\ 11n + 28 = 36 + 7n \\ -7n \quad -7n \\ \hline 4n + 28 = 36 \\ -28 \quad -28 \\ \hline 4n = 8 \\ \frac{4n}{4} = \frac{8}{4} \quad n = 2 \end{array}$$

$$23) -8(2 + 7n) = -6n + 34$$

$$\begin{array}{r} -16 - 56n = -6n + 34 \\ +6n \quad +6n \\ \hline -16 - 50n = 34 \\ +16 \quad +16 \\ \hline -50n = 50 \\ \frac{-50n}{-50} = \frac{50}{-50} \quad n = -1 \end{array}$$

$$25) -4(v - 2) = -4(v - 8) - 8v$$

$$\begin{array}{r} -4v + 8 = -4v + 32 - 8v \\ -4v + 8 = -12v + 32 \\ +4v \quad +4v \\ \hline 8 = -8v + 32 \\ -32 \quad -32 \\ \hline -24 = -8v \\ \frac{-24}{-8} = \frac{-8v}{-8} \quad v = 3 \end{array}$$

$$27) -7(-1 + 3a) = 5(3 - 5a)$$

$$\begin{array}{r} 7 - 21a = 15 - 25a \\ +25a \quad +25a \\ \hline 7 + 4a = 15 \\ -7 \quad -7 \\ \hline 4a = 8 \\ \frac{4a}{4} = \frac{8}{4} \\ a = 2 \end{array}$$

$$16) 5p + 5 = 4 + 4p$$

$$\begin{array}{r} -4p \quad -4p \\ p + 5 = 4 \\ -5 \quad -5 \\ \hline p = -1 \end{array}$$

$$18) -5b + 24 = -8(b - 6) + 6b$$

$$\begin{array}{r} -5b + 24 = -8b + 48 + 6b \\ -5b + 24 = -2b + 48 \\ +2b \quad +2b \\ \hline -3b + 24 = 48 \\ -24 \quad -24 \\ \hline -3b = 24 \\ \frac{-3b}{-3} = \frac{24}{-3} \quad b = -8 \end{array}$$

$$20) -(1 - 5x) + 8 = -17 + 2x$$

$$\begin{array}{r} -1 + 5x + 8 = -17 + 2x \\ 5x + 7 = -17 + 2x \\ -2x \quad -2x \\ \hline 3x + 7 = -17 \\ -7 \quad -7 \\ \hline 3x = -24 \\ \frac{3x}{3} = \frac{-24}{3} \quad x = -8 \end{array}$$

$$22) 2(-7a + 6) = -16 - 7a$$

$$\begin{array}{r} -14a + 12 = -16 - 7a \\ +14a \quad +14a \\ \hline 12 = -16 + 7a \\ +16 \quad +16 \\ \hline 28 = 7a \\ \frac{28}{7} = \frac{7a}{7} \quad a = 4 \end{array}$$

$$24) -7(x + 3) = -2(x + 3) - 5x$$

$$\begin{array}{r} -7x - 21 = -2x - 6 - 5x \\ -7x - 21 = -7x - 6 \\ +7x \quad +7x \\ \hline -21 = -6 \quad \text{no solution} \end{array}$$

$$26) 2(x + 8) = -3(x + 3)$$

$$\begin{array}{r} 2x + 16 = -3x - 9 \\ +3x \quad +3x \\ \hline 5x + 16 = -9 \\ -16 \quad -16 \\ \hline 5x = -25 \\ \frac{5x}{5} = \frac{-25}{5} \quad x = -5 \end{array}$$

$$28) 4k + 7(-4 - 2k) = -2(k - 2)$$

$$\begin{array}{r} 4k - 28 - 14k = -2k + 4 \\ -10k - 28 = -2k + 4 \\ +2k \quad +2k \\ \hline -8k - 28 = 4 \\ +28 \quad +28 \\ \hline -8k = 32 \\ \frac{-8k}{-8} = \frac{32}{-8} \\ k = -4 \end{array}$$