

Reasoning with Equation and Inequalities - Worksheet 5

Answer Key

For problems **1 - 4**, come up with at least one system of equations equivalent to the ones below. For problems **5 - 10**, solve the system of linear equations.

$$\begin{array}{l} 1. \quad \begin{array}{rcl} x - 2y & = & 4 \\ 3x + y & = & 9 \end{array} \\ \begin{array}{rcl} x - 2y & = & 4 \\ -7y & = & 3 \end{array} \end{array}$$

$$\begin{array}{l} 6. \quad \begin{array}{rcl} 3s + b & = & 7 \\ 2y - x & = & 3 \end{array} \\ x = 1, y = 2. \end{array}$$

$$\begin{array}{l} 2. \quad \begin{array}{rcl} -m + n + 3 & = & 0 \\ m + 2n & = & 9 \end{array} \\ \begin{array}{rcl} -m + n & = & -3 \\ m + 2n & = & 9 \end{array} \end{array}$$

$$\begin{array}{l} 7. \quad \begin{array}{rcl} 6x + y & = & 20 \\ -7y & = & 2x \end{array} \\ x = \frac{7}{2}, y = -1. \end{array}$$

$$\begin{array}{l} 3. \quad \begin{array}{rcl} p - 3 + x & = & 90 \\ 2x + p & = & 4 \end{array} \\ \begin{array}{rcl} x + p & = & 12 \\ 2x + p & = & 4 \end{array} \end{array}$$

$$\begin{array}{l} 8. \quad \begin{array}{rcl} x + y & = & 21 \\ 2x & = & 33 + y \end{array} \\ x = 18, y = 3. \end{array}$$

$$\begin{array}{l} 4. \quad \begin{array}{rcl} s - 1 & = & t \\ -t + 2s & = & 7 \end{array} \\ \begin{array}{rcl} s - t & = & 1 \\ 3t & = & 5 \end{array} \end{array}$$

$$\begin{array}{l} 9. \quad \begin{array}{rcl} 7 & = & 17w - 3u \\ 5u & = & w + 16 \end{array} \\ u = \frac{279}{82}, w = \frac{83}{82}. \end{array}$$

$$\begin{array}{l} 5. \quad \begin{array}{rcl} x + 3y & = & 2 \\ s - b & = & 10 \end{array} \\ s = 3, b = -7. \end{array}$$

$$\begin{array}{l} 10. \quad \begin{array}{rcl} r - h & = & -1 \\ 2r - 2 & = & h \end{array} \\ r = 3, h = 4. \end{array}$$

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