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.

1. $\begin{aligned} x - 2y &= 4 \\ 3x + y &= 9 \end{aligned}$

   $\begin{aligned} x - 2y &= 4 \\ -7y &= 3 \end{aligned}$

2. $\begin{aligned} -m + n + 3 &= 0 \\ m + 2n &= 9 \end{aligned}$

   $\begin{aligned} -m + n &= -3 \\ m + 2n &= 9 \end{aligned}$

3. $\begin{aligned} p - 3 + x &= 90 \\ 2x + p &= 4 \end{aligned}$

   $\begin{aligned} x + p &= 12 \\ 2x + p &= 4 \end{aligned}$

4. $\begin{aligned} s - 1 &= t \\ -t + 2s &= 7 \end{aligned}$

   $\begin{aligned} s - t &= 1 \\ 3t &= 5 \end{aligned}$

5. $\begin{aligned} x + 3y &= 2 \\ s - b &= 10 \end{aligned}$

   $s = 3, b = -7.$

6. $\begin{aligned} 3s + b &= 7 \\ 2y - x &= 3 \end{aligned}$

   $x = 1, y = 2.$

7. $\begin{aligned} 6x + y &= 20 \\ -7y &= 2x \end{aligned}$

   $x = \frac{7}{2}, y = -1.$

8. $\begin{aligned} x + y &= 21 \\ 2x &= 33 + y \end{aligned}$

   $x = 18, y = 3.$

9. $\begin{aligned} 7 &= 17w - 3u \\ 5u &= w + 16 \end{aligned}$

   $u = \frac{279}{82}, w = \frac{83}{82}.$

10. $\begin{aligned} r - h &= -1 \\ 2r - 2 &= h \end{aligned}$

    $r = 3, h = 4.$

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