

Chapter 2 Test Review

Name Key

Solve the following review problems.

$$\begin{array}{r|l} 23 & x - 17 \\ +17 & +17 \\ \hline 40 & = x \end{array}$$

$$\begin{array}{r|l} x + 5 & = -13 \\ -5 & -5 \\ \hline x & = -18 \end{array}$$

$$\begin{array}{r|l} \frac{x}{5} & = 100 \\ \cdot 5 & \cdot 5 \\ \hline x & = 500 \end{array}$$

$$\begin{array}{r|l} -7x & = 28 \\ \div -7 & \div -7 \\ \hline x & = -4 \end{array}$$

$$\begin{array}{r|l} \frac{2}{5}x & = 10 \\ \cdot \frac{5}{2} & \cdot \frac{5}{2} \\ \hline 2x & = 50 \\ \div 2 & \div 2 \\ \hline x & = 25 \end{array}$$

$$\begin{array}{r|l} x - 3.7 & = 6.93 \\ +3.7 & +3.7 \\ \hline x & = 10.63 \end{array}$$

$$\begin{array}{r|l} -3 + \frac{x}{3} & = 12 \\ +3 & +3 \\ \hline \frac{x}{3} & = 15 \\ \cdot 3 & \cdot 3 \\ \hline x & = 45 \end{array}$$

$$\begin{array}{r|l} \frac{x}{4} - 21 & = 7 \\ +21 & +21 \\ \hline \frac{x}{4} & = 28 \\ \cdot 4 & \cdot 4 \\ \hline x & = 112 \end{array}$$

$$\begin{array}{r|l} 9 = -3 + x + 2x & \\ 9 = -3 + 3x & \\ +3 & +3 \\ \hline 12 = 3x & \\ \div 3 & \div 3 \\ \hline 4 = x & \end{array}$$

$$\begin{array}{r|l} -4(x+6) & = -40 \\ -4x - 24 & = -40 \\ +24 & +24 \\ \hline -4x & = -16 \\ \div -4 & \div -4 \\ \hline x & = 4 \end{array}$$

$$\begin{array}{r|l} -20 = -4x - 6x & \\ -20 = -10x & \\ \div -10 & \div -10 \\ \hline 2 = x & \end{array}$$

$$\begin{array}{r|l} 6 = 1 - 2n + 5 & \\ 6 = 6 - 2n & \\ -6 & -6 \\ \hline 0 = -2n & \\ \div -2 & \div -2 \\ \hline 0 = n & \end{array}$$

$$\begin{array}{r|l} 8x - 2 = -9 + 7x & \\ -7x & -7x \\ \hline x - 2 = -9 & \\ +2 & +2 \\ \hline x & = -7 \end{array}$$

$$\begin{array}{r|l} a + 5 = -5a + 5 & \\ +5a & +5a \\ \hline 6a + 5 = 5 & \\ -5 & -5 \\ \hline 6a = 0 & \\ \div 6 & \div 6 \\ \hline a & = 0 \end{array}$$

$$\begin{array}{r|l} p - 1 = 5p + 3p - 8 & \\ p - 1 = 8p - 8 & \\ -8p & -8p \\ \hline -7p - 1 = -8 & \\ +1 & +1 \\ \hline -7p = -7 & \\ \div -7 & \div -7 \\ \hline p & = 1 \end{array}$$

$$\begin{array}{r|l}
 p-4 & -9+p \\
 \hline
 -4 & -9 \\
 \hline
 \end{array}$$

No solution

$$\begin{array}{r|l}
 12 & -4(-6x-3) \\
 \hline
 12 & 24x+12 \\
 -12 & -12 \\
 \hline
 0 & 24x \\
 \div 24 & \div 24 \\
 \hline
 0 & x
 \end{array}$$

$$\begin{array}{r|l}
 -(7-4x) & 9 \\
 \hline
 -7+4x & 9 \\
 +7 & +7 \\
 \hline
 4x & 16 \\
 \div 4 & \div 4 \\
 \hline
 x & 4
 \end{array}$$

$$\begin{array}{r|l}
 -18-6k & 6(1+3k) \\
 \hline
 -18-6k & 6+18k \\
 -18k & -18k \\
 \hline
 -18-24k & 6 \\
 +18 & +18 \\
 \hline
 -24k & 24 \\
 \div -24 & \div -24 \\
 \hline
 k & -1
 \end{array}$$

$$\begin{array}{r|l}
 5n+34 & -2(1-7n) \\
 \hline
 5n+34 & -2+14n \\
 -14n & -14n \\
 \hline
 -9n+34 & -2 \\
 -34 & -34 \\
 \hline
 -9n & -36 \\
 \div -9 & \div -9 \\
 \hline
 n & 4
 \end{array}$$

$$\begin{array}{r|l}
 2(4x-3)-8 & 4+2x \\
 \hline
 8x-6-8 & 4+2x \\
 8x-14 & 4+2x \\
 -2x & -2x \\
 \hline
 6x-14 & 4 \\
 +14 & +14 \\
 \hline
 6x & 18 \\
 \div 6 & \div 6 \\
 \hline
 x & 3
 \end{array}$$

$$\begin{array}{r|l}
 24a-20 & -4(5-6a) \\
 \hline
 24a-20 & -20+24a \\
 -24a & -24a \\
 \hline
 -20 & -20
 \end{array}$$

Identity

23. You are ordering tulip bulbs from a flow catalog. You have \$13.50 to spend. Each tulip costs \$0.75 and shipping costs \$3. How many tulips can you order?

Define a variable

Setup an Equation and Solve

Answer the question

$x = \#$ of tulips

$$\begin{array}{r|l}
 .75x+3 & 13.50 \\
 -3 & -3 \\
 \hline
 .75x & 10.50 \\
 \div .75 & \div .75 \\
 \hline
 x & 14
 \end{array}$$

$x = 14$ tulips

24. Ten decreased by 5 times a number is 5. Find the number.

Define a variable

n = The number

Setup an Equation and Solve

$$\begin{array}{r|l}
 10 - 5n & = 5 \\
 -10 & -10 \\
 \hline
 -5n & = -5 \\
 \div -5 & \div -5 \\
 \hline
 n & = 1
 \end{array}$$

Answer the question

$$n = 1$$

25. A sports club sells weights for \$15.95 each plus \$1.75 for shipping and handling. If Maria's total was \$81.50, how many weights did she purchase?

Define a variable

w = # of weights

Setup an Equation and Solve

$$\begin{array}{r|l}
 15.95w + 1.75 & = 81.50 \\
 -1.75 & -1.75 \\
 \hline
 15.95w & = 79.75 \\
 \div 15.95 & \div 15.95 \\
 \hline
 w & = 5
 \end{array}$$

Answer the question

$$w = 5 \text{ weights}$$