

Name: KEY.  
Date: \_\_\_\_\_

### 6.1C Worksheet

Solve each equation. Show all work.

1)  $3x + 7 = x + 3$  Check for #1

$$\begin{array}{r} -x \\ 2x + 7 = 3 \\ -7 \quad -7 \\ \hline 2x = -4 \\ \frac{2x}{2} = \frac{-4}{2} \\ \hline x = -2 \end{array}$$

LS	RS
$3x + 7$	$x + 3$
$3(-2) + 7$	$-2 + 3$
$-6 + 7$	$1$
$1$	$\checkmark$

2)  $-2m - 5 = 3m + 20$

$$\begin{array}{r} -3m \\ -5m - 5 = 20 \\ +5 \quad +5 \\ \hline -5m = 25 \\ \frac{-5m}{-5} = \frac{25}{-5} \\ \hline m = -5 \end{array}$$

3)  $7y + 6 = 4y - 6$

$$\begin{array}{r} -4y \\ 3y + 6 = -6 \\ +6 \quad -6 \\ \hline 3y = -12 \\ \frac{3y}{3} = \frac{-12}{3} \\ \hline y = -4 \end{array}$$

4)  $-p + 27 - 2p = 6 + 4p$

$$\begin{array}{r} -3p + 27 = 6 + 4p \\ -4p \quad -4p \\ \hline -7p + 27 = 6 \\ -27 \quad -27 \\ \hline -7p = -21 \\ \frac{-7p}{-7} = \frac{-21}{-7} \\ \hline p = 3 \end{array}$$

Check for #4

LS	RS
$-p + 27 - 2p$	$6 + 4p$
$-3 + 27 - 2(3)$	$6 + 4(3)$
$-3 + 27 - 6$	$6 + 12$
$24 - 6$	$18$
$18$	$\checkmark$

5)  $8w - 9w = 3w - 16$

$$\begin{array}{r} -1w \\ -3w = 3w - 16 \\ -6w \quad -6w \\ \hline -4w = -16 \\ \frac{-4w}{-4} = \frac{-16}{-4} \\ \hline w = 4 \end{array}$$

6)  $3m - 10.1 = 9.9 - 2m$

$$\begin{array}{r} +2m \\ 5m - 10.1 = 9.9 \\ +10.1 \quad +10.1 \\ \hline 5m = 20 \\ \frac{5m}{5} = \frac{20}{5} \\ \hline m = 4 \end{array}$$

7)  $-5 + 1 + x = 3x - 8$

$$\begin{array}{r} x - 4 = 3x - 8 \\ -3x \quad -3x \\ \hline -2x - 4 = -8 \\ +4 \quad +4 \\ \hline -2x = -4 \\ \frac{-2x}{-2} = \frac{-4}{-2} \\ \hline x = 2 \end{array}$$

Solve each equation. Show all work.

10)  $11y + 25 = 52 + 27 + 2y$

$$\begin{array}{r}
 11y + 25 = 79 + 2y \\
 -2y \qquad \qquad -2y \\
 \hline
 9y + 25 = 79 \\
 -25 \qquad -25 \\
 \hline
 9y = 54 \\
 \frac{9y}{9} = \frac{54}{9} \\
 \hline
 y = 6
 \end{array}$$

Do a check for #10:

LS	RS
$11y + 25$	$\underline{52 + 27} + 2y$
$11(6) + 25$	$79 + 2(6)$
$66 + 25$	$79 + 12$
$91$	$91$

↓

11)  $2p + 10 = 7 - 3p + 13$

$$\begin{array}{r}
 2p + 10 = -3p + 20 \\
 +3p \qquad \qquad +3p \\
 \hline
 5p + 10 = 20 \\
 -10 \qquad -10 \\
 \hline
 5p = 10 \\
 \frac{5p}{5} = \frac{10}{5} \\
 \hline
 p = 2
 \end{array}$$

12)  $65 + x = 73 + 3x - 4$

$$\begin{array}{r}
 x + 65 = 3x + 69 \\
 -3x \qquad -3x \\
 \hline
 -2x + 65 = 69 \\
 -65 \qquad -65 \\
 \hline
 -2x = 4 \\
 \frac{-2x}{-2} = \frac{4}{-2} \\
 \hline
 x = -2
 \end{array}$$