

## Practice for Absolute Value Equations

1.  $|y| = 8$
2.  $|c| = 13$
3.  $|a - 9| = 20$
4.  $|m + 7| = 16$
5.  $|g - 5| + 1 = 11$
6.  $|x - 5| - 6 = -9$
7.  $|2a - 5| - 3 = 8$
8.  $2|x - 3| - 1 = 3$
9.  $7 - |x - 7| = 5$

$$\textcircled{1} \begin{array}{l} y = 8 \\ y = -8 \end{array}$$

$$\textcircled{2} \begin{array}{l} c = 13 \\ c = -13 \end{array}$$

$$\textcircled{3} \begin{array}{l} a - 9 = 20 \quad \text{or} \quad a - 9 = -20 \\ +9 \quad +9 \qquad \qquad +9 \quad +9 \\ \hline a = 29 \qquad \qquad \qquad a = -11 \end{array}$$

$$\textcircled{4} \begin{array}{l} |m + 7| = 16 \\ m + 7 = 16 \quad \text{or} \quad m + 7 = -16 \\ -7 \quad -7 \qquad \qquad -7 \quad -7 \\ \hline m = 9 \qquad \qquad \qquad m = -23 \end{array}$$

$$\textcircled{5} \begin{array}{l} |g - 5| + 1 = 11 \\ -1 \quad -1 \\ \hline |g - 5| = 10 \end{array}$$

$$\begin{array}{l} g - 5 = 10 \quad \text{or} \quad g - 5 = -10 \\ +5 \quad +5 \qquad \qquad +5 \quad +5 \\ \hline g = 15 \qquad \qquad \qquad g = -5 \end{array}$$

$$\textcircled{6} \begin{array}{l} |x - 5| - 6 = -9 \\ +6 \quad +6 \\ \hline |x - 5| = -3 \end{array}$$

NO SOLUTION

$$\textcircled{7} \begin{array}{l} |2a - 5| - 3 = 8 \\ +3 \quad +3 \\ \hline |2a - 5| = 11 \end{array}$$

$$\begin{array}{l} 2a - 5 = 11 \\ +5 \quad +5 \\ \hline 2a = 16 \\ \frac{2a}{2} \quad \frac{16}{2} \\ a = 8 \end{array}$$

$$\begin{array}{l} \text{or} \quad 2a - 5 = -11 \\ +5 \quad +5 \\ \hline 2a = -6 \\ \frac{2a}{2} \quad \frac{-6}{2} \\ a = -3 \end{array}$$

$$\textcircled{8} \quad \frac{2|x-3|-1}{+1+1} = 3$$

$$2|x-3|-1 = 3$$

$$2|x-3| = 4$$

$$\frac{2}{2} \frac{|x-3|}{2} = \frac{4}{2}$$

$$|x-3| = 2$$

$$\text{or } x-3 = 2 \quad \text{or } x-3 = -2$$

$$x = 5 \quad \text{or } x = 1$$

$$\textcircled{9} \quad \frac{7-|x-7|}{-7-7} = 5$$

$$7-|x-7| = -2$$

$$-|x-7| = -2-7$$

$$-|x-7| = -9$$

$$|x-7| = 9$$

$$x-7 = 9 \quad \text{or } x-7 = -9$$

$$x = 16 \quad \text{or } x = -2$$

$$\frac{x-7}{+7+7} = -2$$

$$x-7 = -2$$

$$x = 5$$