Name:

Score:

## **Solve the Absolute Value Equation**

T1MS2

Solve each equation. In case of no solution, write  $\emptyset$  (null set).

1) 
$$|x| = 5$$

2) 
$$\left| \frac{x}{2} \right| = 18$$

3) 
$$-|x| = \frac{5}{2}$$

4) 
$$-\left|-\frac{x}{2}\right| = -2$$

5) 
$$|-x| = -1$$

6) 
$$\frac{|x|}{5} = 3$$

Solution =

$$7) \quad \frac{|x|}{7} = \frac{1}{2}$$

**PREVIEW** 

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

Solution =

$$10) \quad \left| \frac{x}{8} \right| = 2$$

Gain complete access to the largest collection of worksheets in all subjects!

= 8

Solution =

Solution =

16)  $\left| \frac{x}{4} \right| = 1$ 

13) 
$$|-x| = -3$$

Members, please log in to download this worksheet. Not a member? Please sign up to gain complete access.

\_\_\_\_

www.mathworksheets4kids.com

Solution =

19) 
$$\frac{|2x|}{7} = \frac{1}{4}$$

$$20) \quad \left| \frac{-x}{3} \right| = 4$$

21) 
$$|-4x| = -\frac{1}{2}$$

Solution =

22) 
$$-\left|-\frac{x}{2}\right| = -7$$

23) 
$$-|-x| = -8$$

24) 
$$\frac{-1}{|-x|} = 7$$

Solution =

**Answer key** 

Score:

Solve the Absolute Value Equation

T1MS2

1) 
$$|x| = 5$$

2) 
$$\left| \frac{x}{2} \right| = 18$$

3) 
$$-|x| = \frac{5}{2}$$

Solution = 
$$\{-5, 5\}$$

Solution = 
$$\{-36, 36\}$$

4) 
$$-\left|-\frac{x}{2}\right| = -2$$

5) 
$$|-x| = -1$$

6) 
$$\frac{|x|}{5} = 3$$

Solution = 
$$\{-4, \frac{1}{4}\}$$

$$7) \frac{|x|}{7} = \frac{1}{2}$$

## **PREVIEW**

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

Solution = 
$$\left\{-\frac{7}{2}, \frac{7}{2}\right\}$$

10) 
$$\left|\frac{x}{8}\right| = 2$$

 $=\left\{-\frac{3}{4},\,\frac{3}{4}\right\}$ 

Gain complete access to the largest collection of worksheets in all subjects!

Solution =  $\{-16,$ 

13) 
$$|-x| = -3$$

16) 
$$\left|\frac{x}{4}\right| = 1$$

Members, please log in to download this worksheet.

Not a member? Please sign up to gain complete access.

$$\frac{=\left\{-\frac{1}{4}, \frac{1}{4}\right\}}{\frac{1}{4}=2}$$

$$\frac{1}{2} = 2$$

$$\frac{1}{1} = -5$$

www.mathworksheets4kids.com

Solution = 
$$\{-4, 4\}$$

19) 
$$\frac{|2x|}{7} = \frac{1}{4}$$

$$20) \quad \left| \frac{-x}{3} \right| = 4$$

21) 
$$|-4x| = -\frac{1}{2}$$

Solution = 
$$\left\{-\frac{7}{8}, \frac{7}{8}\right\}$$

$$\begin{vmatrix} -7 & 23 & -|-x| = -1 \end{vmatrix}$$

$$22) \quad -\left|-\frac{x}{2}\right| = -7$$

23) 
$$-|-x| = -8$$

Solution =  $\{-12, 12\}$ 

24) 
$$\frac{-1}{|-x|} = 7$$

Solution = 
$$\{-14, 14\}$$

Solution = 
$$\{-8, 8\}$$