

To Solve Absolute Value Equations

Answers

1. Isolate the absolute value to one side of the equation
2. Establish the two cases:
 - a. Set the expression inside the absolute value equal to the other expression
 - b. Set the expression inside the absolute value equal to the opposite of the other expression
3. Solve the resulting equations
4. Check your answer(s) on the original equation to avoid extraneous solutions.

Solve the following equations. Check your answer and eliminate extraneous solutions, if any.

1. $|x-10|=6$

$$\begin{array}{l} x-10=-6 \quad x-10=6 \\ \hline x=4 \quad x=16 \end{array}$$

4. $\frac{|3v-2|}{5}=4$

$$x = -6, \frac{22}{3}$$

2. $|3x+2|=4x+5$

$$x = -1, -3$$

5. $2|3x+4|-10=12$

$$x = -5, \frac{7}{3}$$

3. $|1-6x|+3=46$

$$x = -7, 7\frac{1}{6}$$

6. $2|x-4|-3=\frac{2}{3}x-3$

$$x = 3, 6$$