

Solving for x: Lesson 15

Solving Absolute Value Equations: Worksheet 1

Name: Answer Key



Evaluate.

$|4| = \underline{4}$

$|0.7| = \underline{0.7}$

$|-13| = \underline{13}$

$-|6| = \underline{-6}$

$-|-1| = \underline{-1}$

$|2.3| = \underline{2.3}$

$|7-2| = \underline{5}$
151

$|-3-5| = \underline{8}$
1-81

$|10-4-7| = \underline{1}$
1-11

$|-3 \cdot -7| = \underline{21}$
1211

$|(4+5)-17| = \underline{8}$
1-81

Solve for x.

$|x| = 7$

$x=7$ $x=-7$
 $x=7, -7$

$\frac{3}{3}|x-2| = \frac{12}{3}$

$|x-2| = 4$

$x-2=4$
 $+2 +2$
 $x=6$

$x-2=-4$
 $+2 +2$
 $x=-2$

$\frac{|2x+6|}{3} = 1 \cdot 3$

$|2x+6| = 3$

$2x+6=3$
 $-6 -6$
 $2x=-3$
 $x=-3/2$

$2x+6=-3$
 $-6 -6$
 $2x=-9$
 $x=-9/2$

$|x| = -20$

no solutions!

$\frac{-5}{-5}|3x-2| = \frac{-20}{-5}$

$|3x-2| = 4$

$3x-2=4$
 $+2 +2$
 $3x=6$
 $x=2$

$3x-2=-4$
 $+2 +2$
 $3x=-2$
 $x=-2/3$

$\frac{|x-4|}{6} + 5 = 10$
 $-5 -5$

$\frac{|x-4|}{6} = 5 \cdot 6$

$|x-4| = 30$

$x-4=30$ $x-4=-30$
 $x=34$ $x=-26$

$|x-4| = 3$

$x-4=3$ $x-4=-3$
 $+4 +4$ $+4 +4$
 $x=7$ $x=1$

$|2x+7| + 1 = 8$

$|2x+7| = 7$

$2x+7=7$
 $-7 -7$
 $2x=0$
 $x=0$

$2x+7=-7$
 $-7 -7$
 $2x=-14$
 $x=-7$

$3|8x+11| + 7 = 1$
 $-7 -7$

$\frac{3}{3}|8x+11| = \frac{-6}{3}$

$|8x+11| = -2$

no solutions!