Warm Up:

1. Evaluate: -2|-3(4)-12|+8

$-2|-12-12|+8$

$-2|-24|+8$

$-2(24)+8$

$-48+8$

-40

2. Solve: $\frac{2}{3}x+10=4$

$-10 \quad -10$

$\frac{3}{2}\cdot\frac{2}{3}x=-6\cdot 3$

$\frac{2x}{2}=\frac{-18}{2}$

$x=-9$

Return Quizzes

Absolute Value Equations

If |x|=25, what does x equal?

{25, -25} ±25

If |x|=-10, what does x equal?

∅

Solve for x: $|7x|=63$ What does the quantity 7x equal?

$7x=63$ $7x=-63$

$x=9$ $x=-9$

$x=-9,9$ $x=\pm 9$

Solve for x: $|3x|-1=-10$ What does the quantity 3x equal?

$+1 \quad +1$

$|3x| = -9$

$X = \emptyset$

1. get Abs. value by itself
2. Decide if possible
3. Split into 2 equations

1. $|2x+5|=7$

7 -7

$2x+5=7$ $\quad 2x+5=-7$

$2x=2 \quad 2x=-12$

$x=1 \quad x=-6$

$x=-6,1$

2. $|5x-14|=-21$

$\emptyset$

3. $4\left|\frac{2}{3}x-12\right|+1=25$

$-1 \quad -1$

$4\left|\frac{2}{3}x-12\right|=24$

$\frac{4}{4}$

$\left|\frac{2}{3}x-12\right|=6$

$\frac{2}{3}x-12=6 \quad \frac{2}{3}x-12=-6$

$+12 \quad +12$

$\frac{3}{2}\cdot\frac{2x}{3}=18\cdot\frac{3}{2} \quad \frac{3}{2}x=6$

$x=27 \quad x=9,27$

4. $-8|4-2x|=-32$

$\frac{-8}{-8} \quad \frac{-32}{-8}$

$|4-2x|=4$

$4-2x=4 \quad 4-2x=-4$

$x=0,4$

1. $|5x|+8=7$

$\emptyset$

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

$x=\frac{11}{2}, \frac{-13}{2}$

3. $1=-4|2x-7|$

$\emptyset$

4. $|6x-8|+2=2$

$|6x-8|=0$

$6x-8=0$

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

5. $|3x-2|+1=3$

$x=\frac{4}{3}, 0$

6. $-|5x+3|+2=10$

$\emptyset$

September 11, 2019