ABSOLUTE VALUE EQUATION

IF

$|P| = Q$

THEN

$P = Q \quad P = -Q$

10. $5|4x+3| = 20$

$\frac{5|4x+3|}{5} = \frac{20}{5}$

$|4x+3| = 4$

$4x+3 = 4 \qquad 4x+3 = -4$

$4x = 4-3 \qquad 4x = -4-3$

$4x = 1 \qquad 4x = -7$

$\frac{4x}{4} = \frac{1}{4} \qquad \frac{4x}{4} = \frac{-7}{4}$

$x = \frac{1}{4} \qquad x = \frac{-7}{4}$

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

$|x-3| = 1-8$

$|x-3| = -7$

NO SOL.

12. $|5x+1| + 6 = 6$

$|5x+1| = 6-6$

$|5x+1| = 0$

$5x+1 = 0$

$5x = -1$

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

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

13. $|4x+1| = |x-2|$

PRETEND IT LOOKS LIKE:

$|4x+1| = x-2$

$4x+1 = x-2 \qquad 4x+1 = -(x-2)$

$4x+1 = -x+2$

$4x - x = -2-1 \qquad 4x + x = 2-1$

$3x = -3 \qquad 5x = 1$

$\frac{3x}{3} = \frac{-3}{3} \qquad \frac{5x}{5} = \frac{1}{5}$

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