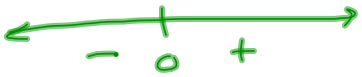
Homework Review - Sections 3.7, 3.8

Solving Absolute Value Equations:

$|7| = 7$

$|-7| = 7$



What is absolute value?

$|a| = a$ for $a \geq 0$

$-a$ for $a < 0$

Absolute value of positive and negative numbers

Solving Absolute Value Equations:

$$|4x + 1| = 15$$

Split into two equations and solve each (two solutions)

$4x+1=15$ $\quad$ $4x+1=-15$

$-1 \quad -1$ $\quad$ $-1 \quad -1$

$\frac{4x}{4} = \frac{14}{4}$ $\quad$ $\frac{4x}{4} = \frac{-16}{4}$

$x = \frac{7}{2}$ or $x = -4$

$$\frac{-\frac{1}{3}|1-8x|}{-\frac{1}{3}} = \frac{2}{-\frac{1}{3}}$$

$|1-8x| = -6$

No solution

No solutions ...

$2 \div -\frac{1}{3} =$

$2 \cdot \frac{-3}{1} = -6$

6. $|2x - 3| = 15$

8. $|7x + 2| = 23$

10. $3|2x - 2| = 18$

12. $2|6x + 5| - 1 = 25$

$2|6x+5|-1=25$

$+1 \quad +1$

$\frac{2|6x+5|}{2} = \frac{26}{2}$

$|6x+5| = 13$

$6x+5=13$

$-5 \quad -5$

$\frac{6x}{6} = \frac{8}{6}$

$x = \frac{8}{6} = \frac{4}{3}$

$6x+5=-13$

$-5 \quad -5$

$\frac{6x}{6} = \frac{-18}{6}$

$x = -3$

$|x + 3| - 4 = -1$ $|x - 8| - 9 = -5$

$-3|4x + 3| = -9$ $-6|10 - 2x| = 24$

Homework:

p. 393; 3 - 18 by 3, 23, 26, 29
(for story problems, set up equation first...)