# Section 1.5 Absolute Values

$|5| = 5$

$|-5| = 5$

Ex: $|x-3| = 17$

$|17| = 17$

$|-17| = 17$

$x-3 = 17$ or $x-3 = -17$

$\boxed{x = 20}$ $\boxed{x = -14}$

Ex: $3|x+6| = 36$

Get absolute val by itself

$\frac{3|x+6|}{3} = \frac{36}{3}$

$|x+6| = 12$

$x+6 = 12$ $x+6 = -12$

$\boxed{x = 6}$ or $\boxed{x = -18}$

Check: $|6+6| = 12$ $|-18+6| = 12$

$|12| = 12$ $|-12| = 12$

$12 = 12$ $12 = 12$

Ex: $4|2x-7| + 5 = 9$

$-5 \quad -5$

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

$|2x-7| = 1$

$2x-7 = 1$ or $2x-7 = -1$

$2x = 8$ $2x = 6$

$\boxed{x = 4}$ or $\boxed{x = 3}$

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