

Absolute Value

$|2x-5|=9$

$$\begin{array}{l} 2x-5=9 \\ \hline +5 \quad +5 \\ \hline 2x=14 \\ x=7 \end{array} \quad \text{or} \quad \begin{array}{l} 2x-5=-9 \\ \hline +5 \quad +5 \\ \hline 2x=-4 \\ x=-2 \end{array}$$

Aug 28-1:49 PM

Less than $<$
and

Greater than $>$
or *more is "or"*

$|2x+7| < 11$

$$\begin{array}{l} 2x+7 < 11 \\ \hline -7 \quad -7 \\ \hline 2x < 4 \\ \frac{2x}{2} < \frac{4}{2} \\ x < 2 \end{array} \quad \text{and} \quad \begin{array}{l} 2x+7 > -11 \\ \hline -7 \quad -7 \\ \hline 2x > -18 \\ \frac{2x}{2} > \frac{-18}{2} \\ x > -9 \end{array}$$

Aug 28-1:54 PM

$|3x-2| \geq 8$ *More is "or"*

$$\begin{array}{l} 3x-2 \geq 8 \\ \hline +2 \quad +2 \\ \hline 3x \geq 10 \\ x \geq \frac{10}{3} \end{array} \quad \text{or} \quad \begin{array}{l} 3x-2 \leq -8 \\ \hline +2 \quad +2 \\ \hline 3x \leq -6 \\ x \leq -2 \end{array}$$

Aug 28-1:58 PM

Application problems

Acceptable

$$| \text{Actual wt} - \text{ideal wt} | \leq \text{tolerance}$$

Unacceptable

$$| \text{Actual wt} - \text{ideal wt} | > \text{tolerance.}$$

to find Ideal wt
average the
extremes

to find the
tolerance
Subtract the Ideal
weight from the
largest extreme

Aug 28-2:10 PM
