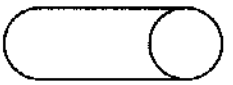
Tolerance Quiz **Name** Key

1. Using the given tolerances, find the longest possible length and the shortest possible length of the part.



$45" \pm \frac{1}{16}"$

$44\frac{15}{16}"$

$45\frac{1}{16}"$

2. Using the given tolerances, find the longest possible length and the shortest possible length of the part. $12'6" \pm \frac{1}{16} inch$

$12' 5\frac{15}{16}"$

$12' 6\frac{1}{16}"$

3. Find the acceptable range of values for a steel pipe with a length of 10' 6" and a tolerance of 0.125 inches.

$10' 5.875" \leq x \leq 10' 6.125"$

4. Find the acceptable range of values for a steel pipe with a length of 12 feet and a tolerance of 0.375 inches.

$11' 11.625" \leq x \leq 12' .375"$

$11' 11\frac{5}{8}" \leq x \leq 12' \frac{3}{8}"$

5. Solve and graph $-2x + 7 \leq 15$

$-7 \quad -7$

$\frac{-2x}{-2} \leq \frac{8}{-2}$ ÷ by negative # FLIP SIGN

$x \geq -4$

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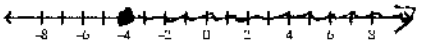

6. Solve and graph $4x + 5 \geq 17$ and $3x - 7 \leq 17$

$$\begin{array}{rr} -5 \quad -5 & +7 \quad +7 \\ \hline \frac{4x}{4} \geq \frac{12}{4} & \frac{3x}{3} \leq \frac{24}{3} \\ x \geq 3 & x \leq 8 \end{array}$$

$x \geq 3$ & $x \leq 8$