**ABSOLUTE VALUE INEQUALITIES #2**

**Directions:** Solving absolute value inequalities requires two different strategies. To solve absolute value inequalities with a “greater than” symbol, you should split the problem into two separate inequalities, like solving an absolute value equation. This strategy is demonstrated in Example 1. For inequalities with a “less than” symbol, you can solve the two inequalities at the same time, as shown in Example 2.

Example 1:  
\[ |x + 7| > 10 \]

\[
\begin{align*}
 x + 7 &< -10 \\
 x &< -17 \\
\end{align*}
\]

or

\[
\begin{align*}
 x + 7 &> 10 \\
 x &> 3 \\
\end{align*}
\]

\[ |x + 4| < 10 \]

\[
\begin{align*}
 -10 &< x + 4 < 10 \\
 -14 &< x < 6 \\
\end{align*}
\]

1) \( |x + 5| < 18 \)  
2) \( |8x| > 40 \)  
3) \( |x + 7| \leq 13 \)

4) \( |15 + x| < 19 \)  
5) \( \left| \frac{x}{4} \right| \geq 12 \)  
6) \( |x + 7| < 25 \)

7) \( |x + 15| \leq 25 \)  
8) \( |2x| > 12 \)  
9) \( |7 + x| < 29 \)

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