

Accuplacer Study Modules

TOPIC: Solving Linear Inequalities

Instructions: Solve each inequality.

<p>1. <math>5(x+3) - 7x \geq -3</math> (Distribute 5)</p> $\underline{5x + 15 - 7x \geq -3}$ (Combine like terms) $\underline{-2x + 15 \geq -3}$ (Get rid of addition) $\underline{-15 \quad -15}$ $\underline{-2x \geq -18}$ (Get rid of multiplication) <p>* Because you divided by -2 in this step, reverse the inequality *</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <math display="block">x \leq 9</math> </div> <p>Solution: "x is less than or equal to 9"</p>	<p>2. <math>4x + 7 + 10x &lt; -8x + 15</math> (Combine like terms)</p> $\underline{-6x + 7 < -8x + 15}$ (Get variables to one side) $\underline{+8x \quad +8x}$ $\underline{2x + 7 < 15}$ (Get rid of addition) $\underline{-7 \quad -7}$ $\underline{\frac{2x}{2} < \frac{8}{2}}$ (Get rid of multiplication) <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <math display="block">x &lt; 4</math> </div> <p>Solution: "x is less than 4"</p>
<p>3. <math>2(x-6) &gt; 5(2x+4)</math> (Distribute 2 and 5)</p> $\underline{2x - 12 > 10x + 20}$ (Get all variables on one side) $\underline{-10x \quad -10x}$ $\underline{-8x - 12 > 20}$ (Get rid of subtraction) $\underline{+12 \quad +12}$ $\underline{-8x > 32}$ (Get rid of multiplication) <p>(* reverse symbol *)</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <math display="block">x &lt; -4</math> </div> <p>Solution: "x is less than -4"</p>	<p>4. <math>5 - 2(x+3) \leq 4x + 2(x-7)</math> (Distribute -2 and 2)</p> $\underline{5 - 2x - 6 \leq 4x + 2x - 14}$ (Combine like terms) $\underline{-2x - 1 \leq 6x - 14}$ (Get all variables on one side) $\underline{-6x \quad -6x}$ $\underline{-8x - 1 \leq -14}$ (Get rid of subtraction) $\underline{+1 \quad +1}$ $\underline{-8x \leq -13}$ (Get rid of multiplication) <p>(* reverse symbol *)</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <math display="block">x \geq \frac{13}{8}</math> </div> <p>Solution: "x is greater than or equal to 13/8"</p>