

Examples - Linear Inequalities

Example 1 Solve $-8 \leq 4x < 16$

$-8 \leq 4x < 16$ $-2 \leq x < 4$	Divide all three terms by 4.
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Example 2 Solve $4 \leq 5x < 10$

$4 \leq 5x < 10$ $\frac{4}{5} \leq x < 2$	Divide all three terms by 5.
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Example 3 Solve $2x - 5 < 7$

$2x - 5 < 7$ $2x < 12$ $x < 6$	1 Add 5 to both sides. 2 Divide both sides by 2.
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Example 4 Solve $2 - 5x \geq -8$

$2 - 5x \geq -8$ $-5x \geq -10$ $x \leq 2$	1 Subtract 2 from both sides. 2 Divide both sides by -5 . Remember to reverse the inequality when dividing by a negative number.
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Example 5 Solve $4(x - 2) > 3(9 - x)$

$4(x - 2) > 3(9 - x)$ $4x - 8 > 27 - 3x$ $7x - 8 > 27$ $7x > 35$ $x > 5$	1 Expand the brackets. 2 Add $3x$ to both sides. 3 Add 8 to both sides. 4 Divide both sides by 7.
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