

2022 The Secret of Algebra I Chapter 2 Solving Linear Inequalities

Lesson 002 | Algebra I | Linear inequalities

<https://www.youtube.com/watch?v=hyEfAGgMODw>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

Solve and graph on a number line: $-13x + 4 < -61$.

02

Solve $4 < 13x + 4 \leq 134$.

03

Solve $|x - -8| \leq 3$.

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04 Solve and graph on a number line: $-11x + 8 < -36$.

05 Solve $4 < 8x + 4 \leq 116$.

06 Solve $|x - -6| \leq 4$.

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01 Solve and graph on a number line: $-13x + 4 < -61$.

Subtract 4: $-13x < -65$. Dividing by a negative reverses the inequality: $x > 5$. Open circle at 5; shade right.

02 Solve $4 < 13x + 4 \leq 134$.

Subtract 4 throughout, then divide by 13: $0 < x \leq 10$. Interval: $(0, 10]$.

03 Solve $|x - 8| \leq 3$.

$-3 \leq x - 8 \leq 3$. Add -8: $-11 \leq x \leq -5$.

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04

Solve and graph on a number line: $-11x + 8 < -36$.

Subtract 8: $-11x < -44$. Dividing by a negative reverses the inequality: $x > 4$. Open circle at 4; shade right.

05

Solve $4 < 8x + 4 \leq 116$.

Subtract 4 throughout, then divide by 8: $0 < x \leq 14$. Interval: $(0, 14]$.

06

Solve $|x - -6| \leq 4$.

$-4 \leq x - -6 \leq 4$. Add -6: $-10 \leq x \leq -2$.