Precalculus
The inequality $a^x \geq A$, part 2.

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Example

Solve the inequality.

$$2^{-3x-5} < 7$$

Logarithms preserve inequalities: apply $\log_2$

$$\log_2 2^{-3x-5} < \log_2 7$$
$$-3x-5 < \log_2 7$$
$$-3x < \log_2 7 + 5$$

Division by negative number flips inequalities

$$x > -\frac{\log_2 7 + 5}{3}$$
$$x \in \left(-\frac{5+\log_2 7}{3}, \infty\right)$$