

## Precalculus

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

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## Example

Solve the inequality.

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

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

$$-3x - 5 < \log_2 7$$

$$-3x < \log_2 7 + 5$$

$$x > -\frac{\log_2 7 + 5}{3}$$

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

Logarithms preserve inequalities: apply  $\log_2$

Division by negative number flips inequalities

