



Exercícios: Inequação exponencial

Resolva as seguintes inequações exponenciais:

1.
 $2^x < 32$

2.
 $\left(\frac{1}{3}\right)^x > \frac{1}{81}$

3.
 $\left(\frac{1}{5}\right)^x \geq 125$

4.
 $(\sqrt[3]{3})^x \leq \frac{1}{9}$

5.
 $(\sqrt[5]{25})^x < \frac{1}{\sqrt[4]{125}}$

6.
 $(0,008)^x > \sqrt[3]{25}$

7.
 $(0,1)^{3-4x} < 0,0001$

8.
 $(0,42)^{1-2x} \geq 1$

9.
 $(0,3)^{x^2-2x-8} \geq 1$

10.
 $2^{x-1} + 2^x + 2^{x+1} - 2^{x+2} + 2^{x+3} > 240$

11.
 $3^{2x+1} - 9^x - 3^{2x-1} - 9^{x-1} \leq 42$

Gabarito:

1. $S = \{x \in \mathbb{R} / x < 5\}$
2. $S = \{x \in \mathbb{R} / x < 4\}$

3. $S = \{x \in \mathbb{R} / x \leq -3\}$
4. $S = \{x \in \mathbb{R} / x \leq -6\}$
5. $S = \{x \in \mathbb{R} / x < -15/8\}$
6. $S = \{x \in \mathbb{R} / x < -2/9\}$
7. $S = \{x \in \mathbb{R} / x < -1/4\}$

8. $S = \{x \in \mathbb{R} / x \geq 1/2\}$
9. $S = \{x \in \mathbb{R} / -2 \leq x \leq 4\}$
10. $S = \{x \in \mathbb{R} / x > 5\}$
11. $S = \{x \in \mathbb{R} / x \leq 3/2\}$