

Solve the Exponential Equation or Inequality. Check your solution.

1. $5^{3x+7} = 25^{x-4}$

2. $36^{7x+1} = 216^{3x-2}$

3. $\frac{1}{16}^{3x+5} = \frac{1}{64}^{x+4}$

4. $81^{3-x} = \frac{1}{3}^{5x-6}$

5. $7^{3x+4} < 49^{2x+1}$

6. $16^{2x-5} \geq 64^{2x-3}$

$$7. 27^{5x-11} \geq 9^{3x+15}$$

$$8. 8^{x-1} \leq \frac{1}{2}^{2x-1}$$

$$9. 25^{3x-1} \leq 125^{3x+5}$$

$$10. \frac{1}{6}^{2x-10} \leq \frac{1}{36}^{3x+13}$$

$$11. 12^{x-4} > 144^{x-6}$$

$$12. 16^{x+1} \geq 4^{4x+1}$$

