

Copy of 7-2: Solving Exponential Equations and Inequalities (Practice)

Solve each equation.

1. $4^{x+35} = 64^{x-3}$

4. $\left(\frac{1}{2}\right)^{x-3} = 16^{3x+1}$

2. $\left(\frac{1}{64}\right)^{0.5x-3} = 8^{9x-2}$

5. $3^{6x-2} = \left(\frac{1}{9}\right)^{x+1}$

3. $3^{x-4} = 9^{x+28}$

Write an exponential function for the graph that passes through the given points.

6. (0, 8) and (4, 2048)

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7. $(0, 15)$ and $\left(2, \frac{15}{16}\right)$

10. $10^{2x+7} \geq 1000^x$

8. $(0, 0.7)$ and $\left(\frac{1}{2}, 3.5\right)$

11. $\left(\frac{1}{8}\right)^{x-6} < 4^{4x+5}$

Solve each inequality.

9. $400 > \left(\frac{1}{20}\right)^{7x+8}$

12. $128^{x+3} < \left(\frac{1}{1024}\right)^{2x}$