Section 7.5 Exponential and Logarithmic Equations

Students will be able to solve exponential and logarithmic equations.

Any equation where the exponent contains a variable is an exponential equation.

-Logs can be useful when solving exponential equations. Exponents can be useful when solving logarithmic equations.

Solve: 5a me base $27^{3x} = 81$ $(3^3)^{3x} = 3$ 9x = 4 9x = 44x = 4/9 When bases are not the same, you can take the log of each side.

if m and n are positive, and m = n, then log m = log n

Solve:

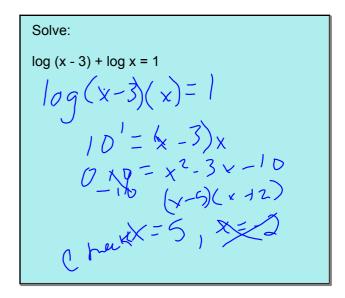
 $5^{2x} = 130$ $1095^{2x} = 109/30$ $2 \times 1095 = 109/30$ $2 \times 1095 = 21095$ 2×1.51

Solve: $\frac{3}{3},5.2^{3x} = \frac{4}{400}$

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A logarithmic equation is an equation that includes one or more logs involving a variable.

Solve: To set x out of x out of



Solve: $27\log 2x^2 - \log 5 = 1$ $1 \log \frac{4x^2}{5} = 1$ $5 \cdot 10^3 = 4x^2$ $4 \cdot 3 \cdot 53 = 1$ $4 \cdot 3 \cdot 53 =$

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