SOLVING EXPONENTIAL EQUATIONS

Exponential equations have a _____ in the _____.

We can solve these equations by rewriting both sides of the equation with a common base.

COMMON BASE PRACTICE

Rewrite the following with base 2:

32

4^x

16^{2x}

$\frac{1}{8}$

$\frac{1}{4^{2x}}$

STEPS FOR SOLVING EQUATIONS

1. Rewrite both sides of the equation with a common base.
2. Set the exponents on each side equal to one another.
3. Solve the equation.
4. Check your answer!

$8^x = 4$

$3^{1-2x} = 243$

$27^x = \frac{1}{81}$

$9^{2x-5} = 27$

$5^{3x} = \frac{1}{125}$

$5^{3x-8} = 25^{2x}$