**When solving exponential equations there are \_\_\_ scenarios that we can encounter...**

# 1 - solving exponential equations with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ bases

# 2 - solving exponential equations with \_\_\_\_\_\_\_\_\_\_ bases that can be \_\_\_\_\_\_\_\_\_\_\_\_\_

**Solving Equations with Common Bases:**

 If b is a positive number, other than 1, then

if and only if \_\_\_\_\_\_\_\_\_\_\_.

This means that you can \_\_\_\_\_\_\_\_\_\_ out the bases and solve the equation using the terms \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_!

**Example: Solve the equation (with common bases)**

|  |  |
| --- | --- |
|  |  |
|  |  |

**Solving Equations with Different Bases:**



**Helpful Tips:**

\*Check to see if the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ base can be rewritten as the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ base.

\*Check to see if both bases can be rewritten as the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ number.

\*Don’t forget to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the “\_\_\_\_\_\_\_\_\_\_\_\_” exponent to all of the “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_” exponent.

**Example: Solve the equation (by rewriting bases)**

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| --- | --- |
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|  |  |