Two Types of Exponential Equations

1) Write the left side of the equation and the right side of the equation using the same base. Then the exponents will be equal.

$$\text{If } b^M = b^N, \text{ then } M = N$$

1) Write as $b^M = b^N$
2) $M = N$
3) Solve for the variable.

2) Take the common logarithm or natural logarithm of exah side of the equation.

$$\log_b M = \log_b N \Leftrightarrow M = N$$

1) Isolate the exponential expression on one side.
2) Take the common or natural logarithms of both sides.
3) Use the properties of logarithms to solve for the variable.
4) Use a TI-30xa calculator if asked to approximate.