

Remember, if $b^{y_1} = b^{y_2}$ iff $y_1 = y_2$, that implies that $\log_b x_1 = \log_b x_2$ iff $x_1 = x_2$

2 Types of Log Equations

Type I. $\log_b x = \log_b y$, then $x = y$

Type II. $\log_b x = y$, then $b^y = x$

Strategy for Solving Logarithmic Equations

The strategy for solving logarithmic equations is to rewrite the equations as a single log on one or both sides of the equality.

- A) If you have logs on both sides of the equation, then you use the rule under Type I above and eliminate the logs.**

- B) If you have logs on only one side of the equation, then you use the rule under Type II, to get rid of the log.**

And, finally you solve the resulting equation.

