

Class Discussion

Unit 3 Topic 4 Par1 Solve Exponential & Logarithmic Equations

Objective: solve different types of exponential and logarithmic equations

Solving of the logarithmic and exponential equations are based on

Uniqueness Property

$$a^x = a^y \rightarrow x = y$$

$$\log_a x = \log_a y \rightarrow x = y$$

Example 1

$$\begin{cases} 3^x \cdot 27 = 9^y \\ 5^{x+y} = \sqrt{125} \end{cases}$$

Example 2

$$4e^{3x} = 5$$

Example 3

$$e^x = 3 + e^{-x}$$

Example 4

$$\log_3(x+3) = \log_9(-2x+2)$$

Example 5

Evaluate

$$e + \frac{1}{e + \frac{1}{e + \frac{1}{\dots}}}$$