Precalculus
Logarithm evaluation, basic

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If $x > 0$, then $\log_a x$ is the exponent to which the base a must be raised to give x.

Example

Evaluate:

1. $\log_3 81 =$
2. $\log_{25} 5 =$
3. $\log_{10} 0.001 =$

If $x > 0$, then $\log_a x$ is the exponent to which the base a must be raised to give x.

Example

Evaluate:

1. $\log_3 81 = ?$
2. $\log_{25} 5 = ?$
3. $\log_{10} 0.001 = ?$

If $x > 0$, then $\log_a x$ is the exponent to which the base a must be raised to give x.

Example

Evaluate:

1. $\log_3 81 = 4$ because $3^4 = 81$.
2. $\log_{25} 5 =$ **?**
3. $\log_{10} 0.001 =$ **?**

If $x > 0$, then $\log_a x$ is the exponent to which the base a must be raised to give x.

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Example

Evaluate:

1. $\log_3 81 = 4$ because $3^4 = 81$.
2. $\log_{25} 5 = \frac{1}{2}$ because $25^{\frac{1}{2}} = \sqrt{25} = 5$.
3. $\log_{10} 0.001 =$ **?**

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2. $\log_{25} 5 = \frac{1}{2}$ because $25^{\frac{1}{2}} = \sqrt{25} = 5$.
3. $\log_{10} 0.001 =$ **?**

If $x > 0$, then $\log_a x$ is the exponent to which the base a must be raised to give x.

Example

Evaluate:

1. $\log_3 81 = 4$ because $3^4 = 81$.
2. $\log_{25} 5 = \frac{1}{2}$ because $25^{\frac{1}{2}} = \sqrt{25} = 5$.
3. $\log_{10} 0.001 = -3$ because $10^{-3} = 0.001$.