

Exponential, Logarithmic, and Piecewise Functions Key Words

Exponential Functions and Graphs Lesson

exponential decay – when an amount loses value exponentially over time

exponential function – a function of the form $f(x) = b^x$, where x is a real number, $b > 0$, and $b \neq 1$

exponential growth – when an amount gains value exponentially over time

natural exponential function – the exponential function with base e , $f(x) = e^x$

Logarithmic Notation Lesson

common logarithm – a logarithm with base 10, written $y = \log x$

logarithmic function – the inverse of the exponential function $y = b^x$, where $b > 0$ and $b \neq 1$; written $y = \log_b x$

natural logarithm – the inverse of the natural exponential function $y = e^x$; written $y = \log_e x$ or $y = \ln x$

Logarithm Rules and Solving Logarithmic Equations Lesson

power rule – a rule stating that the logarithm of an argument raised to a power is equal to the product of the power and the logarithm of the argument

product rule – a rule stating that the logarithm of a product is equal to the sum of the logarithms of each factor in the argument

quotient rule – a rule stating the logarithm of a quotient is equal to the difference of the logarithms of the numerator and the denominator in the argument

Solving Exponential Equations Lesson

change of base formula – a formula that is used to rewrite a logarithm in terms of logarithms with a different base; most typically used to rewrite a logarithm in terms of common or natural logarithms

Piecewise Functions Lesson

piecewise function – a function defined by different equations on different intervals of the domain

step function – a function that continually increases or continually decreases from one constant value to another