

Differentials

Calculus I
Section 3.10

Definition of Differentials

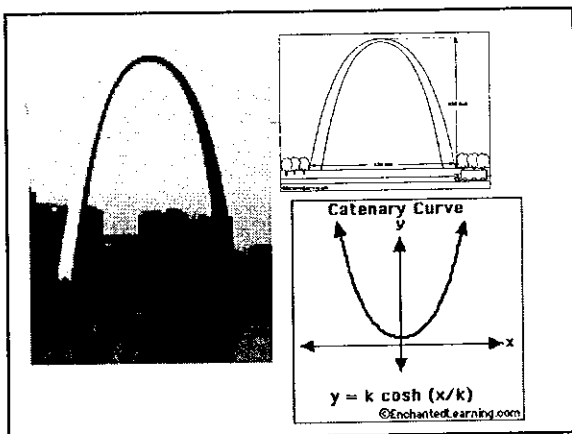
- Let $y = f(x)$ represent a function that is differentiable in an open interval containing x . The differential of x (denoted by dx) is any nonzero real number. The differential of y (denoted by dy) is
- $$dy = f'(x) dx$$

Hyperbolic Functions

Section 3.11

Definitions of the Hyperbolic Functions

- $\sinh x = \frac{e^x - e^{-x}}{2}$
- $\cosh x = \frac{e^x + e^{-x}}{2}$



Applications of Catenaries



Derivatives of Hyperbolic Functions

- $\frac{d}{dx} [\sinh x] = \cosh x$

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