

Exponential and Logarithmic Functions (1A)

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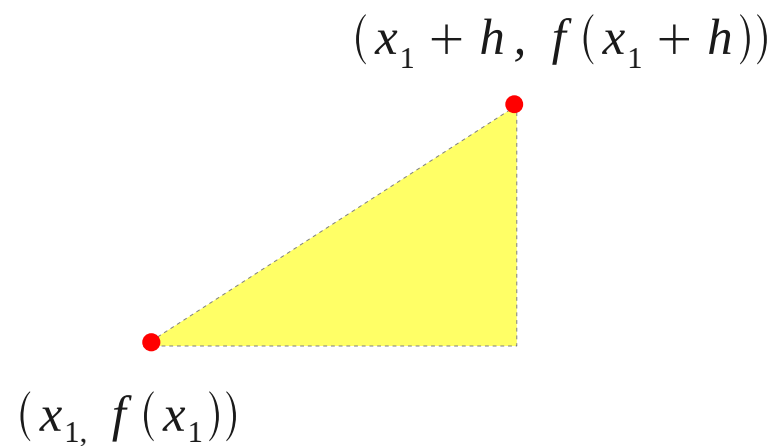
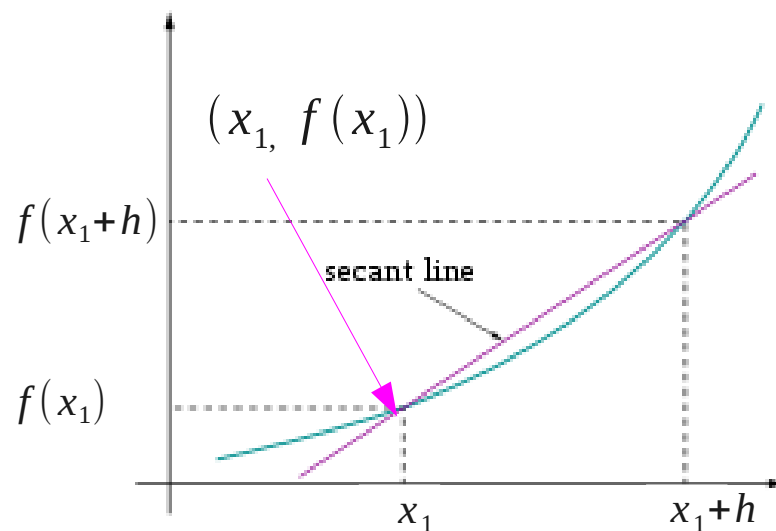
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A triangle and its slope

$$y = f(x)$$

$$\frac{f(x_1 + h) - f(x_1)}{h}$$



<http://en.wikipedia.org/wiki/Derivative>

Log Functions

$$\log_b x$$

$$b^{\quad} = x$$

$$\log_b b$$

$$b^{\boxed{1}} = b$$

$$\log_b 1$$

$$b^{\boxed{0}} = 1$$

$$\log_b b^x$$

$$b^{\boxed{x}} = b^x$$

$$\log_b x$$

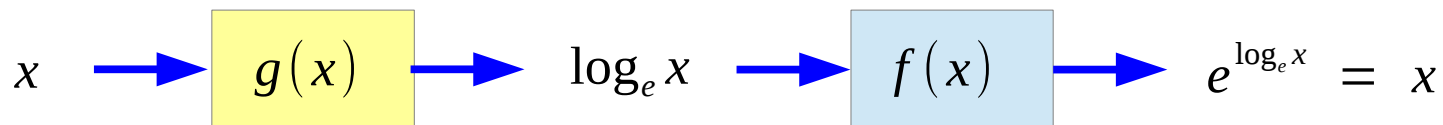
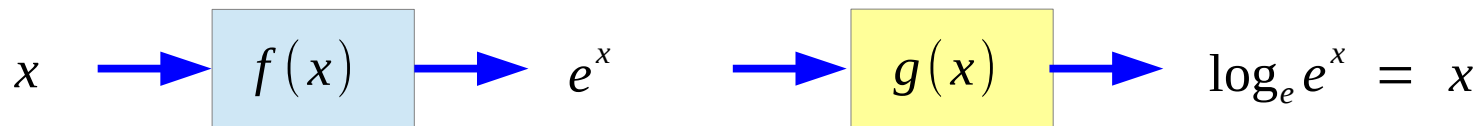
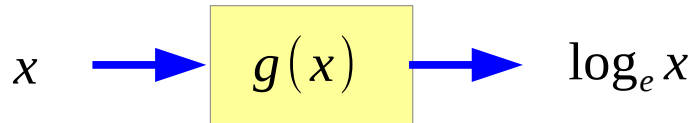
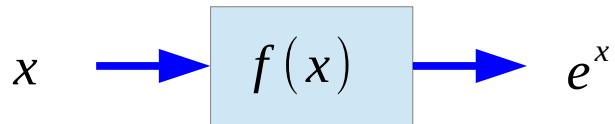
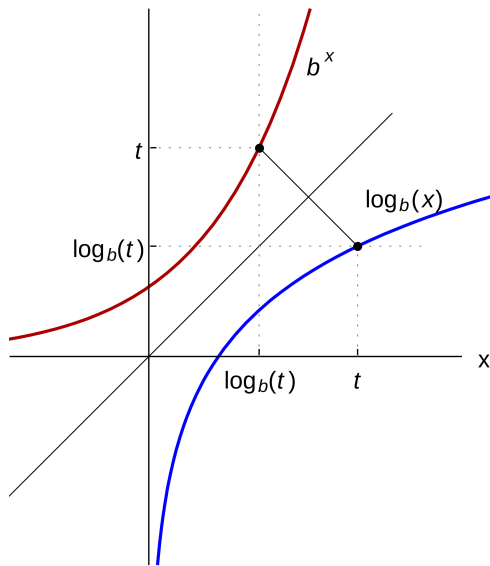
$$b^{\boxed{y}} = x$$

$$\log_b x^r$$

$$b^{\boxed{r y}} = x^r$$

$$\boxed{r \log_b x}$$

Inverse Relations



References

- [1] <http://en.wikipedia.org/>
- [2] M.L. Boas, "Mathematical Methods in the Physical Sciences"
- [3] E. Kreyszig, "Advanced Engineering Mathematics"
- [4] D. G. Zill, W. S. Wright, "Advanced Engineering Mathematics"