Classwork 1

Saktill

PHYS 220 – Scientific Computing I

(Dated: September 6, 2016)

Problem x.yz. Explain what the definition $f'(x)$ of a function $f(x)$ means.

Solution. The definition of $f'(x)$ is given as

$$f'(x) = lim_{h\to 0}\frac{f(x+h) - f(x)}{h}$$

In plain words this means that the rate of change of a function is given by taking a small dx along the function, and taking the limit as that small dx goes to zero of the difference between $f(x+h)$ and $f(x)$ and dividing by the small change. This limit gives the instantaneous rate of change.

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