Calculus I **Fall 2014**

Rates of change

Discussion session 1 - 26 August 2014

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1. Compute the average rate of change of the function $f(x) = 45\sin(x)^2 + 22x^3 - 4$ on the interval $[0, \pi]$.

2. Find a general expression for the average rate of change of the function $f(x) = x(x - a)$ on the interval $[a - h, a]$.

3. Suppose that the position function is given by $s(t) = \frac{1}{(t-3)^2}$. Make a table of appropriate average velocities in order to estimate the instantaneous velocity at $t = 3$.