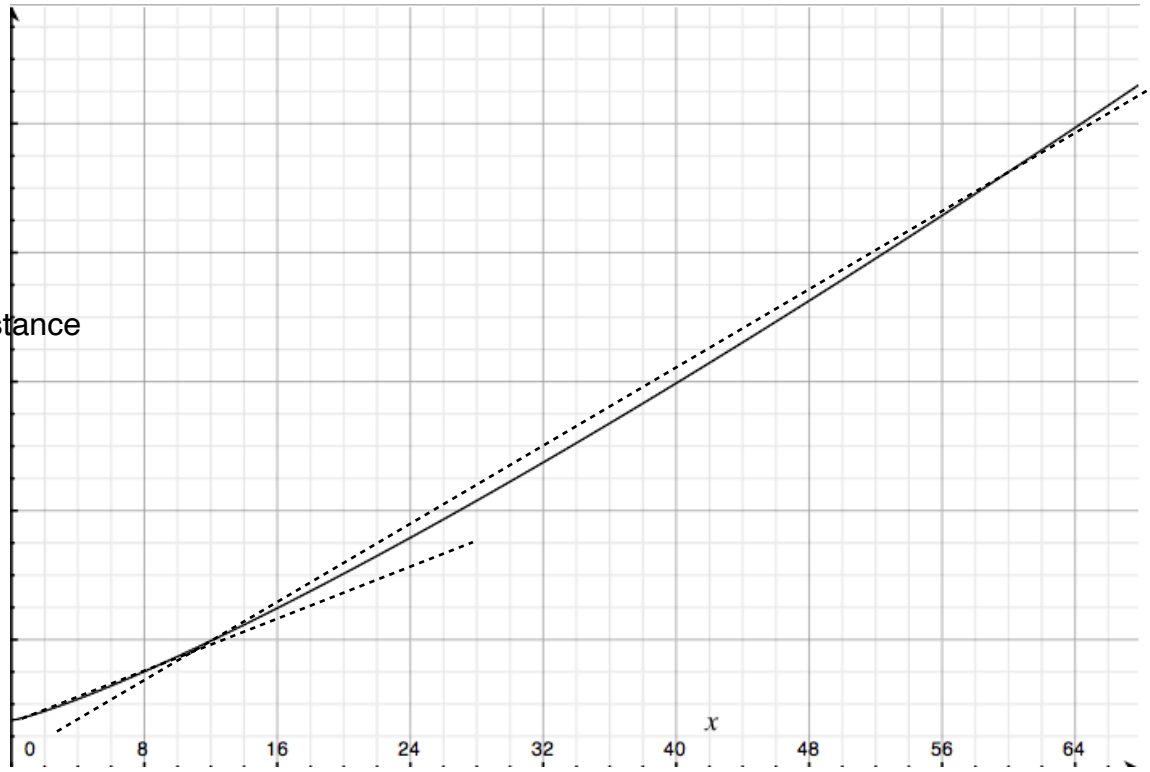
The Derivative Function

Consider a Distance vs Time graph



The slope of a secant line to a distance curve represents the average velocity.

Average velocity = change in distance/change in time= f(t2)-f(t1)/t2-t1.

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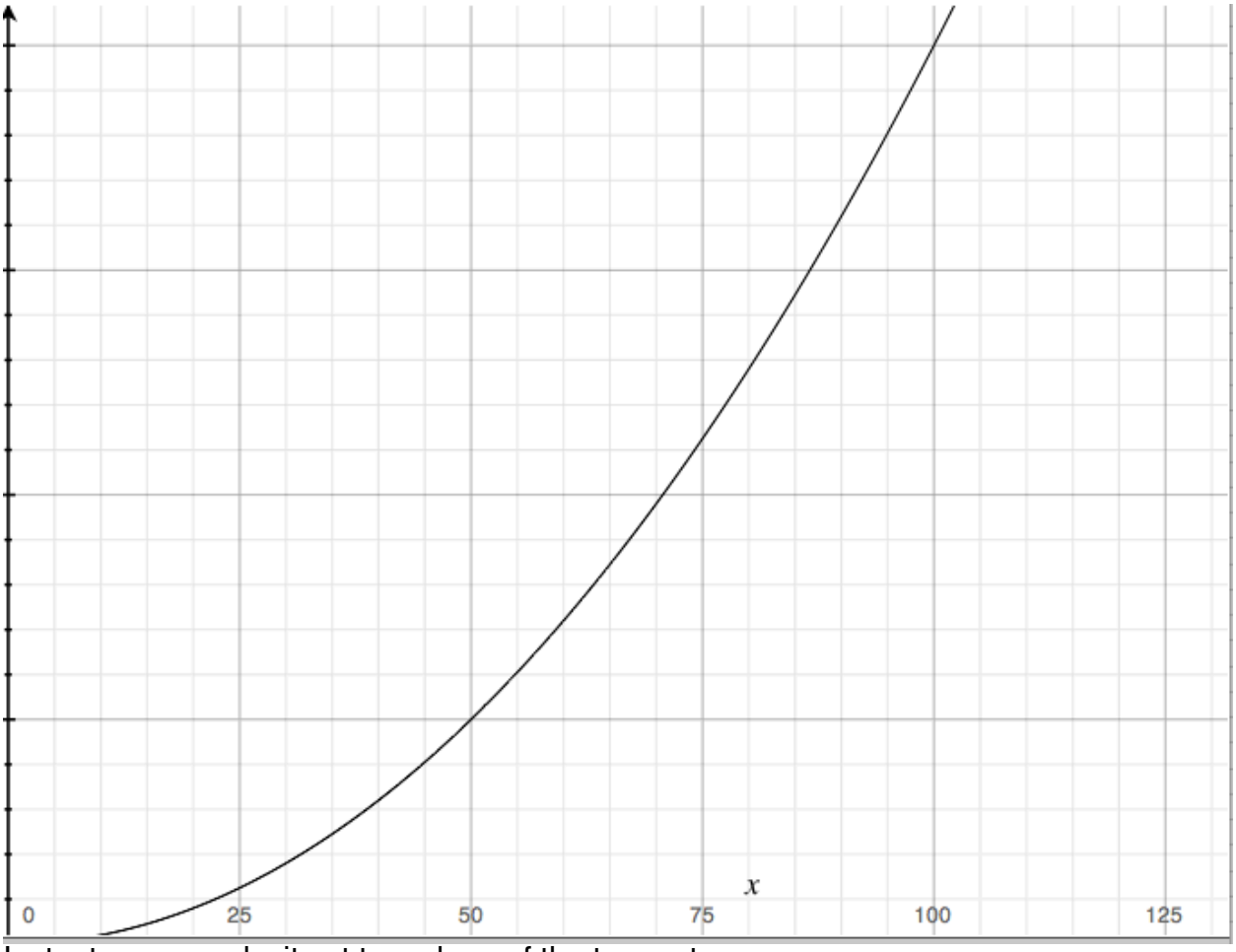

Instantaneous velocity at t=a, slope of the tangent.

line (or velocity; instantaneous velocity) at a = lim as h-> 0 (f(a+h) -f(a)/h)
That is the limit definition of 1st derivative.

Question: Wouldn't the slope (instantaneous velocity) be less accurate when the change in two consecutive outputs is greater than the slope of when two consecutive outputs is smaller?

Mr. Trocki: He understood exactly what I was talking about and referred me to Cardinality.

Definition of a function defined graphically given the graph of f, graph f'.

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