

Differentiation – Applied Examples



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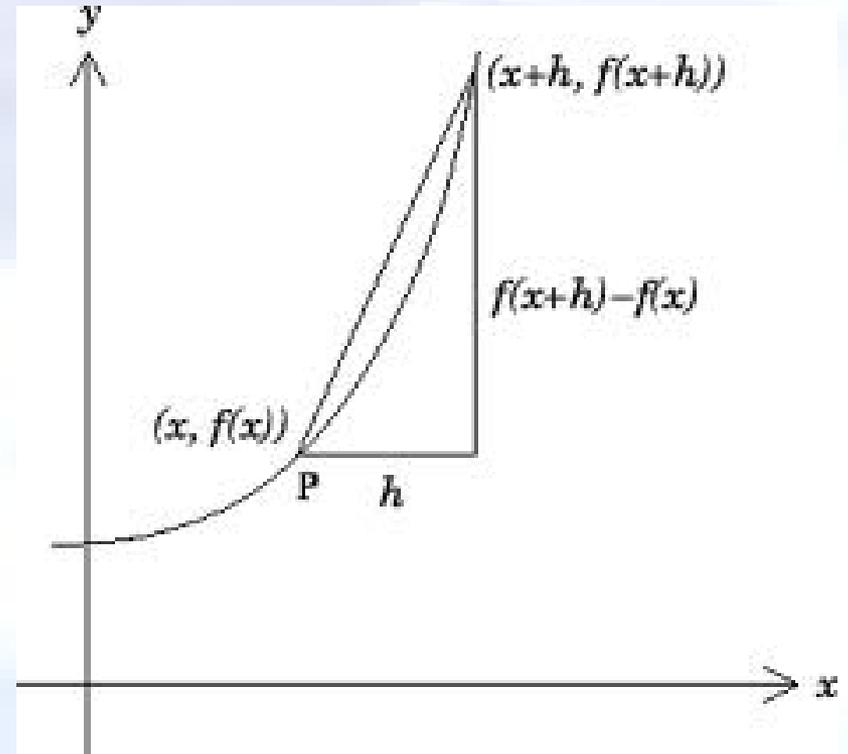
Transforming Numerical Methods Education for STEM Undergraduates

For more details on this topic

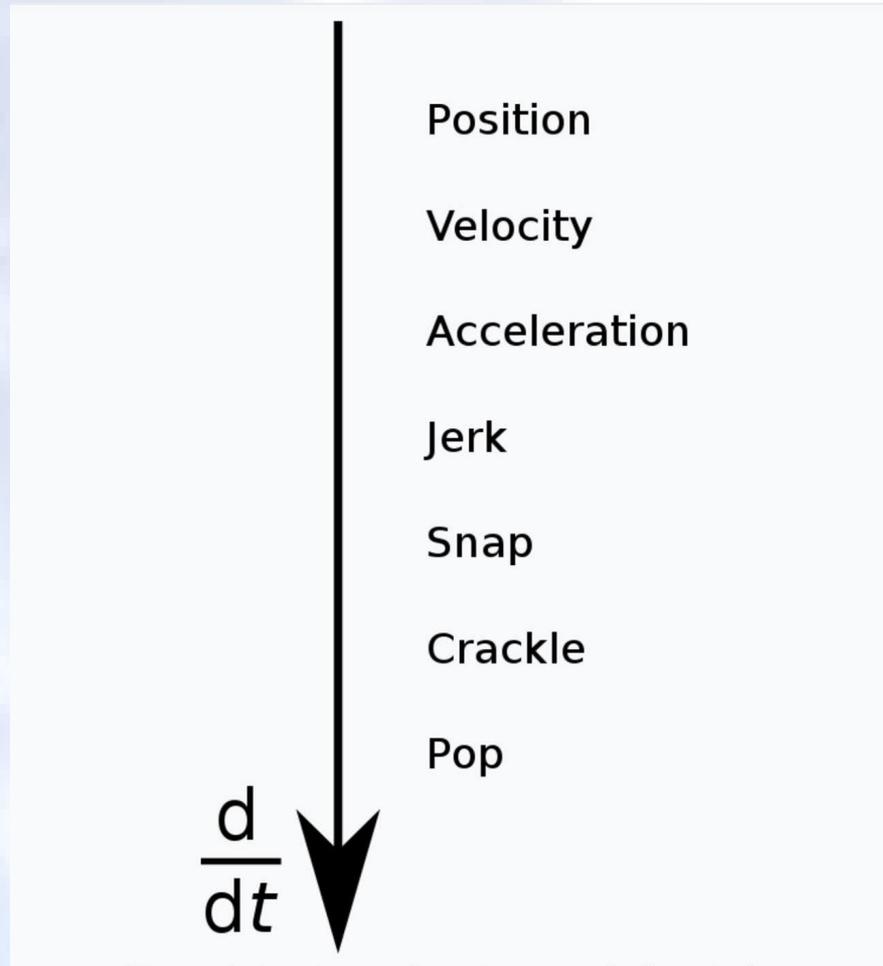
- Go to <http://nm.MathForCollege.com>
- Click on Differentiation

Differentiation

A Slippery Slope - Jerks You Around - Accelerates Your Mind



The different derivatives of position



Acceleration of a rocket



$$v = 2000 \log_e \left(\frac{14 \times 10^4}{14 \times 10^4 - 2100t} \right) - 9.8t$$

Oil Spill



Time (s)	0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
Radius(m)	0	0.236	0.667	1.225	1.886	2.635	3.464	4.365	5.333	6.364	7.454



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