

Title: Gotta teach calculus during the opening bell. Got my entertainment set up tho!
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its and Derivatives

The Tangent and Velocity Problems

Tangent Problem

Point-slope Eqn of a Line

$$y - y_1 = m(x - x_1)$$

EXAMPLE 1 Find an equation of the tangent line to the parabola $y = x^2$ at the point $P(1, 1)$. First slope m of tangent t , but we only know one point on t .

Slope = $m = \frac{y_2 - y_1}{x_2 - x_1}$ $P(1, 1)$ $Q(x, x^2)$

Slope of a secant line through P and Q is

$$m_{PQ} = \frac{x^2 - 1}{x - 1}$$

Note: m_{PQ} undefined at $x = 1$

From tables, secant line slopes get closer to 2 as x gets close to 1.

We define the slope of the tangent line to be the "limit" of the secant line slopes m_{PQ} as Q "get close to" P .

x	m_{PQ}
2	3
1.5	2.5
1.1	2.1
1.01	2.01
1.001	2.001

x	m_{PQ}
0	1
0.5	1.5
0.9	1.9

Gamestop Corp. (GME)
 NYSE - NYSE Delayed Price. Currency in USD

131.03 +1.66 (+1.28%) 162.35 -31.32

At close: January 6 04:00PM EST Pre-Market: 9:15AM EST

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Indicators Comparison 1Min

GME 153.50