Derivative Application Test

Find the equation of the tangent line to $4x^2+y^2=25$ at (2,3)

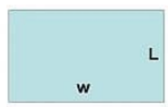
CHANGING RECTANGLE PROBLEM

The length and width of a rectangle are increasing at a rate of 2 ft/min and increasing at a rate of 3.5 ft/min respectively. At the instant when the length is 19 feet and the width is 12.5 feet, find the following:

(A) At what rate is the area of the rectangle changing?

(B) At what rate is the perimeter of the rectangle changing?

(C) At what rate is each diagonal of the rectangle changing?



EXAMPLE 8: A window is being built and the bottom is a rectangle and the top is a semicircle. If there is 12 m of framing materials what must the dimensions of the window be to let in the most light?

Without a Calculator-- Sketch the Graph of $y=x^3-4x^2+4x+1$

Identify: Intervals where y is increasing/decreasing

Relative Maxima and Minima

Points of Inflection

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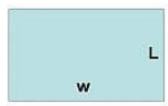

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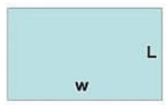

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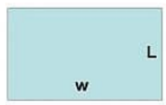

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