

Turn-in problems (Math 1560 Fall 2009)

(#7 due Nov 3) Find all of the critical points of the function

$$f(x) = x^2 - 8 \ln x$$

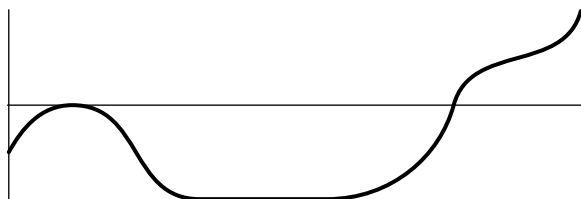
on the interval $(0, \infty)$.

(#8 due Nov 10) Describe the monotonicity of the function

$$f(x) = 2x^3 + 3x^2 - 36x + 7,$$

and determine which of its critical points are maximums, minimums, or neither.

(#9 due Nov 17) Here is the graph of a function:



- (1) Place tick marks at important points on the x -axis, and label them with letters A, B, C, ...

Then describe the **derivative** of the function.

(Say how the derivative starts, then what happens at A, then what happens at B, etc.)

Good words to use are positive, negative, zero, increasing, decreasing, and constant.)

- (2) Sketch a graph of the **derivative** of the function.

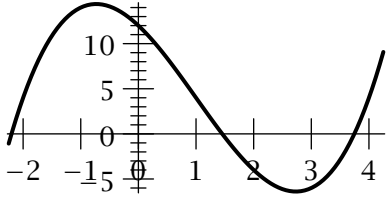
(#10 due Nov 24) Calculate

$$\lim_{x \rightarrow \infty} \frac{4x^5 + 9x^3 - 2}{3x^5 - 7x^4 + 11x^2 - 8x}.$$

(#11 due Dec 1) Approximate the value of

$$\int_{-2}^4 (x^3 - 3x^2 - 6x + 12) dx$$

by evaluating a Riemann sum with 3 rectangles, using **right** endpoints.



(#12 due Dec 8) Evaluate $\int \frac{x}{3x^2 - 4} dx$.