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First Midexam of 211, Oct 10, 2005

Note: You need to show your works in a clear way. A single answer will not gain any credit.

Name (Print):

Signature:

Student ID:

Section:

1.(Points)

2.(Points)

3.(Points)

4.(Points)

Total Points

I. (30 points.) Find the indicated limits.

(a). $\lim_{x \rightarrow 2} \frac{\sqrt{2x^2-3} - \sqrt{x^2+1}}{x-2}$.

(b). $\lim_{x \rightarrow \infty} \frac{2x^2-5x+8}{5x^2+9x-11}$.

II. (20 points.) Find $f'(x)$ if

(a). $f(x) = 3x^2 - 2x + 3$

(b). $f(x) = \frac{1}{x} - 2\sqrt{x} + 9, \quad x > 0$

III. (30 points.) Suppose that you had \$2,000 in an account and the annual interest is 7etc)
(a). How much money will you have at the end of 6 years if the interest is compounded 3 times a year?

(b).How long will it take for the account to reach \$4,000?

IV. (20 points.) Find the equation of the line tangent to the graph " $y = \frac{2}{3}x^3 - 2\frac{1}{x} + 3x - \frac{2}{3}$ " at the point (1, 1).