

Exam 2

Math 211

Please write your name on top of every sheet.
You have 50 minutes
Good luck!

1) Consider

$$f(x) = \frac{x^2}{\sqrt{x^2 + 4}}$$

on the interval $[-1, 1]$.

1. Compute all local maxima and minima of f .
2. Compute all global maxima and minima of f .

(20 points)

2) Let

$$x\sqrt{y+1} = xy + 1.$$

Find $\frac{dy}{dx}$ by implicit differentiation with respect to x .
(15 points)

3) Compute the following

$$\int \frac{5e^x}{2+e^x} dx.$$

(10 points)