

COURSE NAME
MAT 21A, Fall 2005
Final

NAME.....

I.D. NUMBER.....

No books, notes, or calculators. Show all your work.

| Question | Points | Score |
|----------|--------|-------|
| 1 | 50 | |
| 2 | 10 | |
| 3 | 15 | |
| 4 | 20 | |
| 5 | 20 | |
| 6 | 20 | |
| 7 | 20 | |
| 8 | 20 | |
| 9 | 25 | |
| Total | 200 | |

NAME.....

1. [50 pts.]

Find the derivative of the following functions:

1. $f_1(x) = \ln(\sqrt{x^2 + 1} + \sin(x))$

2. $f_2(x) = \cos(\ln(X))$

3. $f_3(x) = (\ln x)^3$

4. $f_4(x) = \sin^{-1}(x^3)$

\sin^{-1} being the inverse function of sine.

5. $f_5(x) = e^{\sin(x)}$

6. $f_6(x) = \frac{\sqrt{2x+1}(x^2+1)^{\frac{1}{3}}}{(x^3+1)^4}$

NAME.....

2. [10 pts.]

NAME.....

3. [15 pts.]

NAME.....

4. [20 pts.]

NAME.....

5. [20 pts.]

NAME.....

6. [20 pts.]

NAME.....

7. [20 pts.]

NAME.....

8. [20 pts.]

NAME.....

9. [25 pts.]