

MATH 202: Dr. ALLAN BICKLE

Basic Skills Exam Sample

Directions: Write your name in the upper right. For each question, show all work. Your answer must be completely right to receive credit. No calculator or notecard will be allowed on this exam. You will have 30 minutes to complete this exam.

In problems 1-8, find the derivative of  $f(x)$ .

1.

$$f(x) = 22x^{28} + 8x^5 + 15 + 9x^{-7}$$

2.

$$f(x) = x^5 e^x$$

3.

$$f(x) = \frac{\ln x}{\cos x}$$

4.

$$f(x) = e^{6+4x^2+2x}$$

5.

$$f(x) = 9x^{\frac{75}{13}} - 11x^{-\frac{43}{13}}$$

6.

$$f(x) = x^3 \ln(10x + 5)$$

7.

$$f(x) = (\sin 5x)^4$$

8.

$$f(x) = \sqrt[8]{1 + 20x + 12x^2 + 10x^3}$$

In problems 9-10, find the antiderivative.

9.

$$\int (4 + 16x + 8x^2 + 18x^3 + 9x^4) dx$$

10.

$$\int \left( \frac{1}{x} + 5 \sin x \right) dx$$