

Practice Exam 2

Name: _____

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Date: _____

Test 2 covers material from chapters 6.8, 7.1-7.5, 7.8.

Good Luck.

1. Evaluate the Integral.

$$\int (\sqrt{x+2})e^{\sqrt{x+2}} dx$$

2. Evaluate the integral. (Hint: Use trig sub at some point).

$$\int \sin^{-1} \sqrt{x} \, dx$$

3. Evaluate the integral.

$$\int \sin^6(3x) \cos^3(3x) dx$$

4. Evaluate the integral.

$$\int \tan^6(x) \sec^4(x) dx$$

5. Evaluate the integral. (Hint: IBP & PFD & Complete the square).

$$\int \ln(x^2 - x + 2) \, dx$$

6. Evaluate the integral. (Hint: Complete the square).

$$\int \frac{\sqrt{x^2 + 4x - 12}}{x + 2} dx$$

7. Evaluate the improper integral. If the integral diverges, show the sign of infinity.

$$\int_2^{\infty} \frac{dv}{v^2 + 2v - 3}$$

8. Evaluate the improper integral. If the integral diverges, show the sign of infinity.

$$\int_0^{\infty} \frac{1}{\sqrt{x}(1+x)} dx$$

9. Evaluate the limit.

$$\lim_{x \rightarrow 0^+} (4x + 1)^{\cot x}$$

10. Evaluate the limit.

$$\lim_{x \rightarrow 0} \sin(5x) \csc(3x)$$