

EXAM 1 - MATH 152

Friday, September 11

YOUR NAME: _____

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Read each problem **very carefully** before starting to solve it. Each problem is worth 10 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. Compute the integral $\int \frac{\cos x}{\sin^2 x} dx$.

2. Compute the integral $\int x e^{-5x} dx$

3. Compute the integral

$$\int \tan^5 x \sec^3 x dx.$$

4. Compute the integral

$$\int \frac{dx}{x^2 \sqrt{x^2 + 1}}.$$

[Hint: After using trig sub, write all functions remaining in terms of sine and cosine.]

5. Compute the integral

$$\int \frac{1 - 3x}{x^2 - 5x + 6} dx.$$