

YOUR NAME: _____

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Read each problem **very carefully** before starting to solve it. Each problem is worth 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. Compute the following derivatives:

(a) $\left[\ln(e^{x^2} - x^3)\right]' =$

(b) $[(2x + \ln x)^3]' =$

(c) $\left[\frac{5}{e^{3x} - e^{-3x}}\right]' =$

2. Compute the following integrals:

$$(a) \int (2x^3 + 6x^2 - 11)dx =$$

$$(b) \int \frac{4x^4 + 4x^2 - 1}{x} dx =$$

$$(c) \int (3e^{9x} + 20x^4)dx =$$