

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 integral:

$$\int \frac{7x^4 - 6x^2 e^{3x} - x + \sqrt{x}}{x^2} dx.$$

2. Suppose a Porsche® 997 Turbo Cabriolet can accelerate from standing to a speed of $v(t) = -0.24t^2 + 18t$ feet/second after t seconds, for $0 \leq t < 40$. Find a formula for the distance that it will travel from starting point in the first t seconds.

Hint: Recall that the velocity function is the first derivative of the distance function.

