

Name: _____

VIP ID: _____

- Write your name and VIP ID in the space provided above.
 - The test has three (3) pages, including this one.
 - Credit for each problem is given in parentheses at the right of the problem number.
 - No books, notes or scratch paper may be used on this test.
 - An approved calculator may be used on this test.
-

Problem 1 (10 pts each). Compute the antiderivative of the following functions:

$$\int (5 - 3x - 6x^6) dx$$

$$\int (2^x + 5 \cdot 7^x - 8e^x) dx$$

$$\int \left(\frac{2}{x} - \frac{5}{6x^2} - \frac{6}{\sqrt{x}} \right) dx$$

$$\int (x^3 - 7)^2 dx$$

$$\int \frac{x^2 - x}{x^5} dx$$

Problem 2 (10 pts each). Compute the antiderivative of the following functions:

$$\int x^6(15 - x^7)^{12} dx$$

$$\int 5xe^{x^2} dx$$

$$\int \frac{3x^2}{8x^3 - 5} dx$$

$$\int 13 \cdot 2^{4x} dx$$

Problem 3 (10 pts). Find the antiderivative $F(x)$ of $f(x) = 12x^2 - 4e^{3x}$ that satisfies $F(0) = 2/3$.