

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. Find the indefinite integral $\int \frac{xe^x + 1}{x} dx$

2. Evaluate the definite integral $\int_0^1 (6x^2 - 4e^{2x}) dx$

3. An average child of age x years grows at the rate of $\frac{6}{\sqrt{x}}$ inches per year (for $2 \leq x \leq 16$). Find the total height gain from age 4 to age 9.