MATH1040 INTEGRATION PRACTICE

1. (a) Find \( \int (3x^2 + 4x + 1) \, dx \).
(b) Find \( \int \left( e^x + \frac{2}{x} \right) \, dx \).
(c) Evaluate \( \int (12x^2 - 2x) \, dx \).
(d) Evaluate \( \int (-2e^x + 8x) \, dx \).

2. (a) Find \( \int (6x^2 - 2x + 10) \, dx \).
(b) Find \( \int \left( e^x - \frac{1}{x} \right) \, dx \).
(c) Evaluate \( \int (3x^2 + 4x + 5) \, dx \).
(d) Evaluate \( \int (2e^x + 3x + 5) \, dx \).

3. (a) Find \( \int (9x^2 + x + 5) \, dx \).
(b) Find \( \int \left( 2e^x - \frac{3}{x} \right) \, dx \).
(c) Evaluate \( \int (6x^2 - 6x + 6) \, dx \).
(d) Evaluate \( \int (e^x + 4) \, dx \).