1. Find \( g'(x) \) if \( g(x) = \int_{1}^{x} \frac{t^2 + 5}{t^3 + 1} \, dt \)

2. Compute these integrals

(a) \( \int_{0}^{5} \sin(x) + 3e^x \, dx = \)

(b) \( \int_{1}^{4} (x + 1)(x - 2) \, dx = \)

3. Does the integral \( \int_{1}^{4} (x + 1)(x - 2) \, dx \) represent area, or a difference of area?