

Convert each integral into Newton's notation and then evaluate the integral using a summation and a limit.

1. $\int_0^5 (2x + 1) dx$

2. $\int_1^3 5x dx$

3. $\int_0^2 x^2 dx$

4. $\int_1^2 (x^2 - 1) dx$

5. $\int_0^2 (x^2 + x + 2) dx$

6. $\int_1^2 (3x^2 - x - 1) dx$