

1. Evaluate $\int_{-1}^0 (2x^4 + 5)dx$.

2. Evaluate $\int_{\pi/2}^{\pi} \sin^3(x) \cos(x)dx$.

3. Evaluate $\int_0^3 (x^2 + 2)\sqrt{x^3 + 6x}dx$.

4. Find the average value of the function $f(x) = \sin(x) \cos(x)$ on the interval $[0, \pi/2]$.

5. Evaluate $\int_1^2 \frac{x-3}{x^2-6x+12}dx$.