

1. Evaluate the following integrals:

- $\int (x^3 - 2x^2 + x - 1)dx$
- $\int (3x^2 - 4x + 1)(x^3 - 2x^2 + x - 1)dx$
- $\int (5e^x - 1/x)dx$
- $\int (3e^{4x} - 1/x^2)dx$
- $\int \frac{u^3+2u^2-u}{3u} du$
- $\int (\sqrt{2} + \pi - 1/x - 5/x^5)dx$
- $\int (x^{3/2} - 4x^{4/5} + x^{-1/2} - 3)dx$
- $\int 4(2x - 8)^9 dx$
- $\int \frac{x^4}{1-x^5} dx$
- $\int \frac{1-x^5}{x^4} dx$
- $\int \frac{x^2}{x^3+9} dx$
- $\int (x^3 e^{4x^4+5}) dx$
- $\int (e^{3x} - 5e^{-7x} + e^{-x}) dx$
- $\int_1^4 (\sqrt{x} - 1/\sqrt{x}) dx$
- $\int_1^2 (1 + 1/x + 1/x^2) dx$

2. Find the area of the region:

- under the graph of $f(x) = (3x^3 - 2x^2 + 4)/(x^2)$ on the interval $[1, 4]$.
- between the graph of $f(x) = \sqrt{x}$ and $g(x) = 1/\sqrt{x}$ on the interval $[1, 9]$.

3. Find the function f that the slope of the tangent line to the graph of f at any point $(x, f(x))$ is $g(x) = (2/x) + 1$ and that the graph of $f(x)$ passes through point $(1, 2)$.

4. Ex. 63,64/941, ex. 57/954, ex. 45/977.