

1. Use the Trapezoidal Rule to find an approximation for $\int_1^4 f(t)dt$ where the values of $f(t)$ are given in the table.

t	1	2	3	4
f(t)	8.9	6.5	4.1	2.9

2. Approximate $\int_1^3 (x^2 - 1)dx$ using 4 subintervals (ie 5 function values)

3. Find: (a) $\int (x^7 + 5x - 3)dx$ (b) $\int \frac{x^6 - 3x^5 + 2x^4}{x^2} dx$ (c) $\int (7x + 8)^{12} dx$

4. Find the value of:

(a) $\int_3^6 \sqrt{x - 2} dx$ (b) $\int_0^1 \frac{dx}{(3x - 2)^4}$ (c) $\int_1^4 \frac{2}{\sqrt{(5x - 4)^3}} dx$

5. Find the area enclosed between the curve $y = x^2 + 1$, the x -axis and the lines $y = -2$ and $x = 2$.

6. Find the area enclosed between the curve $y = \frac{1}{x^2}$, the y -axis and the lines $y = 1$ and $y = 4$ in the first quadrant.

7. Find the area enclosed between the curves $y = x^2$ and $y = (x - 4)^2$ and the x -axis.

8. Find the volume of the solid formed when:

- (a) the curve $y = x^2 + 2$ is rotated about the x -axis from $x = 0$ to $x = 2$.
 (b) the curve $x^2 + y^2 = 4$ is rotated about the y -axis from $y = 1$ to $y = 2$.