

Integrate the following.

1) $\int \frac{dx}{(5-x)^3}$

2) $\int \frac{x}{4x^2 - 6} dx$

3) $\int x^3(x^4 - 7)^4 dx$

4) $\int \frac{dx}{x^2 + 49}$

5) $\int \tan^4 x \sec^2 x dx$

6) $\int \sqrt[5]{\cot t} \csc^2 t dt$

Use an integration technique(antiderivative) to evaluate the following

7) $\int_{-1}^0 \frac{4t}{(4+t^2)^5} dt$

8) $\int_{-\pi}^0 \cos^2\left(\frac{x}{2}\right) \sin\left(\frac{x}{2}\right) dx$

9) $\int_{-2}^6 \frac{x dx}{2x^2 + 1}$