

Sareed Dewage

2103524 10/01/2022

Analytical methods for/thermo

Page 6

07) $\int x^5 + 2x^2 + x - 10 dx$

$$\frac{x^6}{6} + \frac{2x^3}{3} + \frac{x^2}{2} - 10x + C$$
$$\frac{x^6}{6} + \frac{2x^3}{3} + \frac{x^2}{2} - 10x + C$$

ii) $\int (2x+5)(x^2-1) dx$

$$\int 2x^3 - 2x + 5x^2 - 5 dx$$
$$\frac{x^4}{2} - x^2 + \frac{5x^3}{3} - 5x + C$$

iii) $\int_2^5 2x^2 x (x^2 + 3) dx$

$$\int 2x^2 (x^2 + 3) dx$$
$$2x \int x^2 (x^2 + 3) dx$$
$$2x \int x^4 + 3x^2 dx$$

$$2 \left(\frac{x^5}{5} + x^3 \right)$$