

QUESTION

Find $\int x(1+x^2)^6 dx$.

ANSWER

$$\int x(1+x^2)^6 dx = \frac{1}{14}(1+x^2)^7 + c$$

$$\{u = 1 + x^2, du = 2x dx, \text{ therefore } I = \int \frac{1}{2} du (u^6) = \frac{u^7}{2(7)} + c\}$$