

STEP III, 2005, Q7

7 Show that if $\int \frac{1}{uf(u)} du = F(u) + c$, then $\int \frac{m}{xf(x^m)} dx = F(x^m) + c$, where $m \neq 0$.

Find:

(i) $\int \frac{1}{x^n - x} dx$;

(ii) $\int \frac{1}{\sqrt{x^n + x^2}} dx$.



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