

STEP/Integration: Exercises - Overview (22/6/23)

Q1

$$\int \tan^2 \theta \, d\theta$$

Q2

How to convert from:

(i) $\int_0^\infty f(x)dx$ to $\int_\infty^0 g(x)dx$

(ii) $\int_0^a f(x)dx$ to $\int_a^0 g(x)dx$

Q3

Simplify:

(i) $\int_{-a}^a f(-x) \, dx$

(ii) $\int_0^a f(a-x) \, dx$

Q4

$$\int \sqrt{1-x^2} \, dx$$

Q5

$$\int \tan x \, dx$$

Q6

$$\int \sin x \cos^2 x \, dx$$

Q7

$$\int \frac{e^x}{e^{2x}+1} \, dx$$

Q8

$$\int \sec^4 \theta \, d\theta$$

Q9

$$\int \frac{1}{1+\cos x} \, dx$$

Q10

$$\int \frac{1}{x \ln x} \, dx$$