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1: $\int x2 / (x3+8)\, dx$

$= \int \frac{1}{3t}\, dt$

$= \frac{1}{3} \times \int \frac{1}{t}\, dt$

$= \frac{1}{3} \times \ln(1+1)$

$R = \frac{1}{3} \times \ln(1x^3+8) + c$

2: $\int \cot x\, dx$

$= \int \frac{\cos(x)}{\sin(x)}\, dx$

$= \int \frac{1}{t}\, dx$

$= \ln(1+1)$

$R = \ln(1 \sin(x) 1) + c$

$$3 = \int \text{Sen } 2x \,/\, (1 + \text{SEN2 } 2x)\, dx$$

$$= \int \frac{\text{Sin}(2x)}{1+1-\cos(2x)^2}\, dx$$

$$= \int \frac{\text{Sin}(2x)}{2-\cos(2x)^2}\, dx$$

$$= \int -\frac{1}{2(2-t^2}\, dt$$

$$= -\frac{1}{2} \times \int \frac{1}{2+t^2}\, dt$$

$$= \frac{1}{2} \times \frac{1}{2\sqrt{2}} \times \ln\left(\frac{1 - \sqrt{2}}{1 + \sqrt{2}}\right)$$

$$= \frac{1}{2} \times \frac{1}{2\sqrt{2}} \times \ln\left(\frac{\cos(2x) - \sqrt{2}}{\cos(2x) + \sqrt{2}}\right)$$

$$R = \sqrt{2} \times \ln\left(\frac{\cos(2x) - \sqrt{2}}{\cos(2x) + \sqrt{2}}\right) + C$$

Solve

$4 = \int dx \,/\, \tan x$

$= \int \frac{\frac{1}{\sin(x)}}{\cos(x)} \, dx$

$= \int \frac{\cos(x)}{\sin(x)} \, dx$

$= \int \frac{1}{t} \, dt$

$= \ln(|t|)$

$R = \ln(|\sin(x)|) + C$

$$5 = \int \frac{(2x^3 + x^2 - x)}{x^2}\, dx$$

$$= \int \frac{x \times (2x^2 + x - 1)}{x^2}\, dx$$

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

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

$$= \int 2x + \frac{x}{x} - \frac{1}{x}\, dx$$

$$= \int 2x + 1 - \frac{1}{x}\, dx$$

$$= \int 2x\, dx + \int 1\, dx - \int \frac{1}{x}\, dx$$

$$R = x^2 + x - \ln(|x|) + C$$