

Matematisk analys del 2
Dugga 3
 2022-11-25, kl 08.00-11.00

1.

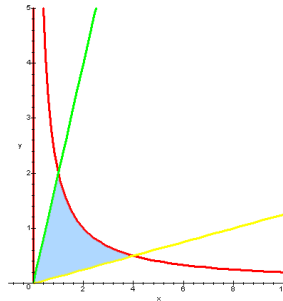
a. $\int x \sin(2x) dx = -\frac{x}{2} \cos(2x) + \frac{1}{4} \sin(2x) + C$

b. $\int \frac{4}{x^2 - 4} dx = \ln \left| \frac{x-2}{x+2} \right| + C$

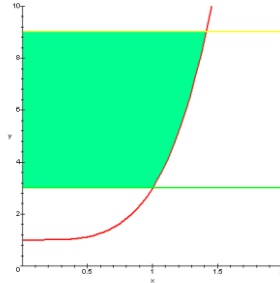
c. $\int 6x^3 e^{x^2} dx = 3e^{x^2} (x^2 - 1) + C$

d. $\int_0^{8\pi} \sin^4 x dx = 3\pi$

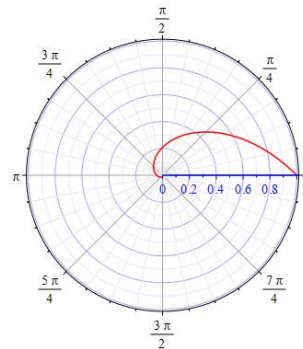
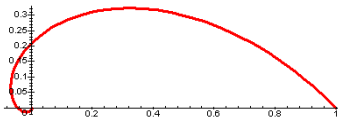
2. $A = 4 \ln 2$ a.e.



3. $V = \frac{28\pi}{3}$ v.e.



4. $s = \sqrt{2}(1 - e^{-2\pi})$ l.e.



5. $V = 24\pi^2$ v.e.

