Kuis KVT

Saturday, 25 September 2021 16.13

1. $\int_{-2}^{2} f(x)\,dx = 4$; $\int_{-2}^{5} f(x)\,dx = 3$; $\int_{-2}^{5} g(x)\,dx = 9$

Berapakah $\int_{-2}^{5} (f(x) + g(x))\,dx$

$= \int_{-2}^{5} f(x)\,dx + \int_{-2}^{5} g(x)\,dx = 3 + 9 = 12$

2. $\lim_{n \to \infty} \frac{1}{n^2} (2 + 4 + 6 + \dots + 2n)$ ↳ U_n

$S_n = \frac{n}{2}(a + U_n)$

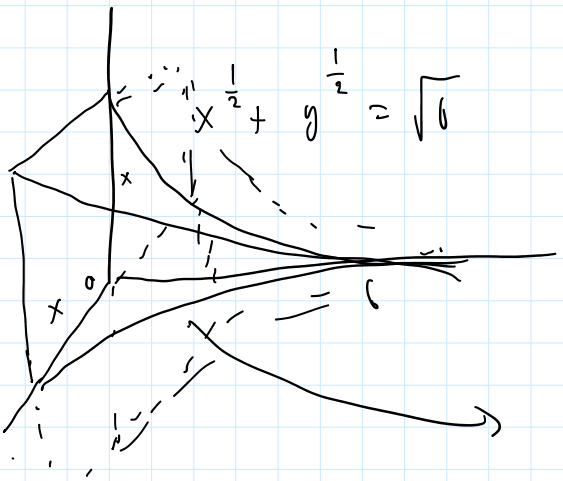
$= \frac{n}{2}(2 + 2n)$

$= n + n^2$

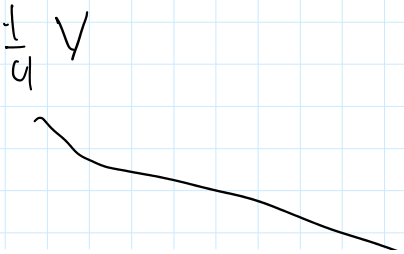
$\lim_{n \to \infty} \frac{1}{n^2}(n + n^2) = \lim_{n \to \infty} \frac{1}{n^2} \cdot n^2 \left(\frac{1}{n} + 1\right)$

$= 0 + 1 = 1$

3. $0 \le x \le 6$



Tentukan volume nya!



Tentukan volume nya!

$x^{\frac{1}{2}} + y^{\frac{1}{2}} = \sqrt{6}$

$y^{\frac{1}{2}} = \sqrt{6} - x^{\frac{1}{2}}$

$y = (6 - 2(6x)^{\frac{1}{2}} + x)$

Area : $(2y)^2 = 4\left(6 - 2(6x)^{\frac{1}{2}} + x\right)^2$

$= 144 + 144x + 4x^2 - 96\sqrt{6x} - 16x\sqrt{6x}$

$V = \frac{1}{4}\int_0^6 \text{Area}\ dy$

$= \frac{1}{4}\int_0^6 (144 + 144x + 4x^2 - 96\sqrt{6x} - 16x\sqrt{6x})\ dx$

$= \frac{72}{5}$ maaf mas, terpaksa memakai kalkulator