Solución $\int_0^1 (2x-1)^2\,dx$

Binomio al cuadrado

$(a+b)^2 = a^2 + 2ab + b^2$

$(2x-1)^2 = 4x^2 - 4x + 1$

$\int_0^1 4x^2 - 4x + 1\,dx$

$\int_0^1 4x^2\,dx - 4\int_0^1 x\,dx + \int_0^1 1\,dx$

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

$\int c\,dx = cx$

$4\left(\frac{x^3}{3}\right) - 4\left(\frac{x^2}{2}\right) + x\Big|_0^1$

$\frac{4}{3}(x^3) - \frac{4}{2}(x^2) + x\Big|_0^1$

$\frac{4}{3}(1^3 - 0^3) - 2(1^2 - 0^2) + (1 - 0)$

$\frac{4}{3} - 2 + 1 = \frac{4}{3} - \frac{6}{3} + \frac{3}{3} = \frac{1}{3}$