

$$f := x \mapsto \sin(x) + \sqrt{3} \cdot \cos(x) + 1$$

$$f := x \mapsto \sin(x) + \sqrt{3} \cos(x) + 1 \quad (1)$$

$$f\left(\frac{\pi}{6}\right)$$

$$3 \quad (2)$$

$$f\left(\frac{5 \cdot \pi}{6}\right)$$

$$0 \quad (3)$$

$$f\left(\frac{3 \cdot \pi}{2}\right)$$

$$0 \quad (4)$$

$$48 \cdot \pi^2 \cdot \int_0^{\frac{\pi}{2}} \cos(x)^4 dx$$

$$9 \pi^3 \quad (5)$$