

Een familie van functies

$$14. \quad A_G = \int_0^3 (f_{0,9}(x) - f_{0,5}(x)) dx = \int_0^3 (0,9 \cdot x^{\frac{3}{2}} - 0,5 \cdot x^{\frac{3}{2}}) dx = \left[0,36 \cdot x^{\frac{5}{2}} - 0,2 \cdot x^{\frac{5}{2}} \right]_0^3 = 2,49$$

$$15. \quad I = \pi \int_0^3 (2x^{\frac{3}{2}})^2 dx = \pi \int_0^3 (4x^3) dx = \pi \left[x^4 \right]_0^3 = 81\pi$$

$$16. \quad L\left(\frac{2}{3}\right) = \int_0^3 \sqrt{1+(\sqrt{x})^2} dx = \int_0^3 (1+x)^{\frac{1}{2}} dx = \left[\frac{2}{3} (1+x)^{\frac{3}{2}} \right]_0^3 = \frac{14}{3}$$