

$$f := t \rightarrow [t - 1, 3 \cdot t^2 + 2, 6 \cdot t^3 - 3] \quad t \rightarrow [t - 1, 3 t^2 + 2, 6 t^3 - 3] \quad (1)$$

$$\text{diff}(f(t), t) \quad [1, 6 t, 18 t^2] \quad (2)$$

$$\text{grad} := \sqrt{(\%_1)^2 + (\%_2)^2 + (\%_3)^2} \quad \sqrt{(1 + 18 t^2)^2} \quad (3)$$

$$\int \text{grad} dt \quad \frac{t(1 + 6 t^2) \sqrt{(1 + 18 t^2)^2}}{1 + 18 t^2} \quad (4)$$

$$\int_0^2 \text{grad} dt \quad 50 \quad (5)$$