

$$f := t \rightarrow [t^2 - 4, t^3 - 2 \cdot t - 7] \quad t \rightarrow [t^2 - 4, t^3 - 2t - 7] \quad (1)$$

$$\text{diff}(f(t), t) \quad [2t, 3t^2 - 2] \quad (2)$$

$$\text{grad} := \sqrt{(\%_1)^2 + (\%_2)^2} \quad \sqrt{-8t^2 + 9t^4 + 4} \quad (3)$$

$$\text{gradd} := \text{diff}(\%, t) \quad \frac{1}{2} \frac{-16t + 36t^3}{\sqrt{-8t^2 + 9t^4 + 4}} \quad (4)$$

$$\text{graddd} := \text{diff}(\text{gradd}, t) \quad -\frac{1}{4} \frac{(-16t + 36t^3)^2}{(-8t^2 + 9t^4 + 4)^{3/2}} + \frac{1}{2} \frac{-16 + 108t^2}{\sqrt{-8t^2 + 9t^4 + 4}} \quad (5)$$

$$\text{solve}(\text{gradd}(t) = 0, t) \quad t \rightarrow 0, t \rightarrow \frac{2}{3}, t \rightarrow -\frac{2}{3} \quad (6)$$

$$\text{subs}\left(t = \frac{2}{3}, \text{graddd}\right) \quad \frac{4}{5} \sqrt{20} \sqrt{9} \quad (7)$$

$$\text{subs}\left(t = -\frac{2}{3}, \text{graddd}\right) \quad \frac{4}{5} \sqrt{20} \sqrt{9} \quad (8)$$

$$\text{subs}(t = 0, \text{graddd}) \quad -2\sqrt{4} \quad (9)$$