

$$f := x \mapsto \frac{1}{5} \cdot x^5 - \frac{8}{3} \cdot x^3 + 16x$$

$$f := x \mapsto \frac{1}{5} x^5 - \frac{8}{3} x^3 + 16x \quad (1)$$

$$fp := D(f)$$

$$fp := x \mapsto x^4 - 8x^2 + 16 \quad (2)$$

$$fpp := D(fp)$$

$$fpp := x \mapsto 4x^3 - 16x \quad (3)$$

$$\text{solve}(fp(x) = 0)$$

$$2, 2, -2, -2 \quad (4)$$

$$15 \cdot f(x)$$

$$3x^5 - 40x^3 + 240x \quad (5)$$

$$40^2 - 4 \cdot 3 \cdot 240$$

$$-1280 \quad (6)$$

$$\text{solve}(f(x) = 0)$$

$$0, \frac{2\sqrt{15-6I\sqrt{5}}}{3}, -\frac{2\sqrt{15-6I\sqrt{5}}}{3}, \frac{2\sqrt{15+6I\sqrt{5}}}{3}, -\frac{2\sqrt{15+6I\sqrt{5}}}{3} \quad (7)$$

$$\text{evalf}(\%)$$

$$0., 2.793826997 - 1.067146954 I, -2.793826997 + 1.067146954 I, 2.793826997 + 1.067146954 I, -2.793826997 - 1.067146954 I \quad (8)$$