

$$f := x \mapsto x^3 - 6 \cdot x^2 - 15 \cdot x + 4 \qquad f := x \mapsto x^3 - 6 \cdot x^2 - 15 \cdot x + 4 \qquad (1)$$

$$fp := D(f) \qquad fp := x \mapsto 3 \cdot x^2 - 12 \cdot x - 15 \qquad (2)$$

$$solve(fp(x) = 0) \qquad 5, -1 \qquad (3)$$

$$f(5) \qquad 6 \cos(5)^2 - 12 \sin(5) \qquad (4)$$

$$f(-1) \qquad 6 \cos(1)^2 + 12 \sin(1) \qquad (5)$$

Next one:

$$f := x \mapsto 6 \cdot \cos(x)^2 - 12 \cdot \sin(x) \qquad f := x \mapsto 6 \cdot \cos(x)^2 - 12 \cdot \sin(x) \qquad (6)$$

$$fp := D(f) \qquad fp := x \mapsto -12 \cdot \cos(x) \cdot \sin(x) - 12 \cdot \cos(x) \qquad (7)$$

$$factor(fp(x)) \qquad -12 \cos(x) (\sin(x) + 1) \qquad (8)$$

$$solve(fp(x) = 0) \qquad -\frac{\pi}{2}, \frac{\pi}{2} \qquad (9)$$

$$f\left(-\frac{\pi}{2}\right) \qquad 12 \qquad (10)$$

$$f\left(\frac{3 \cdot \pi}{2}\right) \qquad 12 \qquad (11)$$

$$fpp := D(fp) \qquad fpp := x \mapsto 12 \cdot \sin(x)^2 - 12 \cdot \cos(x)^2 + 12 \cdot \sin(x) \qquad (12)$$

$$solve(fpp(x) = 0) \qquad -\frac{\pi}{2}, \frac{\pi}{6}, \frac{5 \pi}{6} \qquad (13)$$

$$fpp(x) \qquad 12 \sin(x)^2 - 12 \cos(x)^2 + 12 \sin(x) \qquad (14)$$

$$evalf\left(f\left(\frac{\pi}{12}\right)\right) \qquad 2.492247670 \qquad (15)$$

$$\text{evalf}\left(f\left(\frac{\text{Pi}}{2}\right)\right) \quad -12. \quad (16)$$

$$\text{evalf}(f(\text{Pi})) \quad 6. \quad (17)$$

$$\text{evalf}\left(f\left(\frac{7 \cdot \text{Pi}}{4}\right)\right) \quad 11.48528137 \quad (18)$$