

$$\text{evalf}\left(\frac{1}{2}\right) \quad 0.5000000000 \quad (1)$$

$$\text{evalf}\left(\frac{1.}{2}\right) \quad 0.5000000000 \quad (2)$$

$$e = \exp(1) \quad e = e \quad (3)$$

$$\text{sqrt}(3) \quad \sqrt{3} \quad (4)$$

$$\text{evalf}(\text{Pi}) \quad 3.141592654 \quad (5)$$

$$\text{Pi} \quad \pi \quad (6)$$

$$\text{evalf}(\sin(1)) \quad 0.8414709848 \quad (7)$$

$$\sin(0.1) \quad 0.09983341665 \quad (8)$$

$$a := (x^2 + 2 \cdot x - 1)^3 \cdot (x^2 - 2) \quad a := (x^2 + 2 \, x - 1)^3 (x^2 - 2) \quad (9)$$

$$\text{expand}(a) \quad x^8 + 6 \, x^7 + 7 \, x^6 - 16 \, x^5 - 27 \, x^4 + 14 \, x^3 + 17 \, x^2 - 12 \, x + 2 \quad (10)$$

$$b := (x + n)^5 \quad b := (x + n)^5 \quad (11)$$

$$\text{expand}(b) \quad n^5 + 5 \, n^4 \, x + 10 \, n^3 \, x^2 + 10 \, n^2 \, x^3 + 5 \, n \, x^4 + x^5 \quad (12)$$

$$a := 'a' \quad a := a \quad (13)$$

$$\text{factor}(x^8 - 1) \quad (x - 1) (x + 1) (x^2 + 1) (x^4 + 1) \quad (14)$$

$$\text{factor}\left(\frac{2 \cdot x^2}{x^3 - 1} + \frac{3 \cdot x}{x^2 - 1}\right) \quad \frac{(5 \, x^2 + 5 \, x + 3) \, x}{(x - 1) (x + 1) (x^2 + x + 1)} \quad (15)$$

$$\text{simplify}(\sin(x)^2 + \cos(x)^2 + \sin(2 \cdot x)) \quad 2 \sin(x) \cos(x) + 1 \quad (16)$$

$$\text{eval}(\exp(x) + \ln(x), x=1)$$

$$e$$
(17)

$$\text{subs}(x=1, \exp(x) + \ln(x))$$

$$e + \ln(1)$$
(18)

$$\text{subs}(x=2, \ln(x) + \exp(x) + 2 \cdot x + 2^x)$$

$$\ln(2) + e^2 + 8$$
(19)

$$eq := x^2 - 4 \cdot x + 3$$

$$eq := x^2 - 4 x + 3$$
(20)

$$\text{fsolve}(eq=0, x)$$

$$1.000000000, 3.$$
(21)

$$\text{fsolve}(x^2 - 4 \cdot x + 3 = 0, x)$$

$$1.000000000, 3.$$
(22)

$$\text{solve}(x^2 \cdot y + 2 \cdot y - x = 0, y)$$

$$\frac{x}{x^2 + 2}$$
(23)

$$\text{solve}(x^2 \cdot y + 2 \cdot y - x = 0, x)$$

$$\frac{1 + \sqrt{-8 y^2 + 1}}{2 y}, -\frac{-1 + \sqrt{-8 y^2 + 1}}{2 y}$$
(24)

$$\text{fsolve}(x - \cos(x) = 0, x)$$

$$0.7390851332$$
(25)

$$\text{fsolve}(x^5 - 3 \cdot x^3 - 1 = 0, x)$$

$$-1.668777593, -0.7418139305, 1.782308780$$
(26)

$$\text{solve}(\{4 \cdot x + 3 \cdot y = 10, 3 \cdot x - y = 1\}, \{x, y\})$$

$$\{x=1, y=2\}$$
(27)

$$f := x \rightarrow \exp(x) - \sin(x)$$

$$f := x \mapsto e^x - \sin(x)$$
(28)

$$f(0)$$

$$1$$
(29)

$$f(-1)$$

$$e^{-1} + \sin(1)$$
(30)

$$\text{evalf}(f(-1))$$

$$1.209350426$$
(31)

$$D(f)(0)$$

$$0$$
(32)

$$f'(1)$$

$$f'(x) \quad e^{-\cos(1)} \quad (33)$$

$$e^x - \cos(x) \quad (34)$$

$$\text{[> diff}(f(x), x) \quad e^x - \cos(x) \quad (35)$$

$$D(f)(x) \quad e^x - \cos(x) \quad (36)$$

$$\text{diff}(f(x), x\$2) \quad e^x + \sin(x) \quad (37)$$

$$(D@@2)(f)(x) \quad e^x + \sin(x) \quad (38)$$

$$\text{int}(f(x), x) \quad \cos(x) + e^x \quad (39)$$

$$\text{int}(f(x), x=-1..1) \quad -e^{-1} + e \quad (40)$$

$$f := x \mapsto x^2 \quad f := x \mapsto x^2 \quad (41)$$

$$g := \exp(x) - \sin(x) \quad g := e^x - \sin(x) \quad (42)$$

$$\text{eval}(g, x=0) \quad 1 \quad (43)$$

$$\text{diff}(g, x) \quad e^x - \cos(x) \quad (44)$$

$$\text{eval}(\text{diff}(g, x), x=0) \quad 0 \quad (45)$$

$$\text{diff}(g, x\$2) \quad e^x + \sin(x) \quad (46)$$

$$\text{eval}(\text{diff}(g, x\$2), x=0) \quad 1 \quad (47)$$

$$\text{int}(g, x) \quad \cos(x) + e^x \quad (48)$$

$$\text{int}(g, x=-1..1) \quad -e^{-1} + e \quad (49)$$

$f := \text{diff}(g, x)2$

$f := e^x + \sin(x)$

(50)

$eval(f, x=0)$

1

(51)

$limit\left(\frac{\sin(x)}{x}, x=0\right)$

1

(52)

$limit\left(\frac{\cos(x)+1}{x-\text{Pi}}, x=\text{Pi}\right)$

0

(53)