

jalase1

> $\text{evalf}\left(\sin\left(\frac{\text{Pi}}{8}\right)\right);$	0.3826834325	(1)
> $\text{Digits} := 20;$	$\text{Digits} := 20$	(2)
> $\text{evalf}\left(\tan\left(\frac{\text{Pi}}{8}\right)\right);$	0.41421356237309504880	(3)
> $\text{restart} :$		
> $\text{exp}(1.);$	2.718281828	(4)
> $\arcsin\left(\frac{\text{sqrt}(3)}{2}\right);$	$\frac{1}{3} \pi$	(5)
> $\text{evalf}\left(\arcsin\left(\frac{\text{sqrt}(3)}{2}\right)\right);$	1.047197551	(6)
> $\text{factorial}(20);$	2432902008176640000	(7)
> $\text{evalf}\left(\text{exp}(-20) \cdot 20^{20} \cdot \text{sqrt}(2 \cdot \text{Pi} \cdot 20)\right);$	$2.422786847 \cdot 10^{18}$	(8)
> $\ln(\text{abs}(-2.));$	0.6931471806	(9)
> $a := 2;$	$a := 2$	(10)
> $b := 4 \cdot a + 1;$	$b := 9$	(11)
> $\text{eq1} := 2 \cdot x + 3 \cdot y = 1;$	$\text{eq1} := 2x + 3y = 1$	(12)
> $\text{eq2} := 4 \cdot x - 12 \cdot y = 4;$	$\text{eq2} := 4x - 12y = 4$	(13)
> $\text{solve}(\{\text{eq1}, \text{eq2}\}, \{x, y\});$	$\left\{y = \frac{-1}{9}, x = \frac{2}{3}\right\}$	(14)
> $g := x^3 + 4 \cdot x - 5;$	$g := x^3 + 4x - 5$	(15)
> $\text{solve}(g = 0, x);$		(16)

$$1, -\frac{1}{2} + \frac{1}{2} I\sqrt{19}, -\frac{1}{2} - \frac{1}{2} I\sqrt{19} \quad (16)$$

$$\begin{aligned} > h := (2 \cdot x - 1) \cdot (x - 4) \cdot (3 \cdot x + 4) \cdot (x + 5); \\ & \quad h := (2x - 1)(x - 4)(3x + 4)(x + 5) \end{aligned} \quad (17)$$

$$\begin{aligned} > k := \text{expand}(h); \\ & \quad k := 6x^4 + 11x^3 - 119x^2 - 104x + 80 \end{aligned} \quad (18)$$

$$\begin{aligned} > \text{solve}(k=0, x); \\ & \quad \frac{1}{2}, \frac{-4}{3}, 4, -5 \end{aligned} \quad (19)$$

$$\begin{aligned} > \text{factor}(k); \\ & \quad (2x - 1)(x - 4)(3x + 4)(x + 5) \end{aligned} \quad (20)$$

$$\begin{aligned} > \text{simplify}\left(\frac{(x^3 - 1) \cdot ((x^2 - 1)^2 - (x^2 + 1)^2)}{(x^4 - 1)}\right); \\ & \quad -\frac{4x^2(x^2 + x + 1)}{x^3 + x^2 + x + 1} \end{aligned} \quad (21)$$

$$\begin{aligned} > \text{subs}(x=3, k); \\ & \quad -520 \end{aligned} \quad (22)$$

$$\begin{aligned} > \text{expr1} := \frac{(2 \cdot \sin(x) + \cos(x) - 2)}{\tan(2 \cdot x)}; \\ & \quad \text{expr1} := \frac{2 \sin(x) + \cos(x) - 2}{\tan(2x)} \end{aligned} \quad (23)$$

$$\begin{aligned} > \text{op}(\text{expr1}); \\ & \quad 2 \sin(x) + \cos(x) - 2, \frac{1}{\tan(2x)} \end{aligned} \quad (24)$$

$$\begin{aligned} > \text{nops}(\text{expr1}); \\ & \quad 2 \end{aligned} \quad (25)$$

$$\begin{aligned} > \text{expr2} := (2 \cdot \sin(x) + \cos(x) - 2); \\ & \quad \text{expr2} := 2 \sin(x) + \cos(x) - 2 \end{aligned} \quad (26)$$

$$\begin{aligned} > \text{op}(\text{expr2}); \\ & \quad 2 \sin(x), \cos(x), -2 \end{aligned} \quad (27)$$

$$\begin{aligned} > \text{nops}(\text{expr2}); \\ & \quad 3 \end{aligned} \quad (28)$$

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