

$$factor(x^8 - 1);$$

$$(x - 1) (x + 1) (x^2 + 1) (x^4 + 1) \quad (1)$$

> *expression* := e<sup>x</sup> + ln(x); *expression* := e (2)

```
=> ?eval  
> eval(expression, x = 1);  
e
```

```
> ?subs  
> subs(x=1, expression);
```

```
> g := ex - sin(x);
```

```
g := e^x - sin(x)          (5)
> eval(g, x=0);
1                         (6)
```

$$\begin{aligned} & \text{D}(g)(x); \\ &= \text{D}(\text{e}^x)(x) - \text{D}(\sin(x))(x) \end{aligned} \tag{7}$$

$$= \int_{\gamma} d\psi \quad \text{0} \quad (8)$$

$$= \int g \, dx = \cos(x) + e^x \quad (9)$$

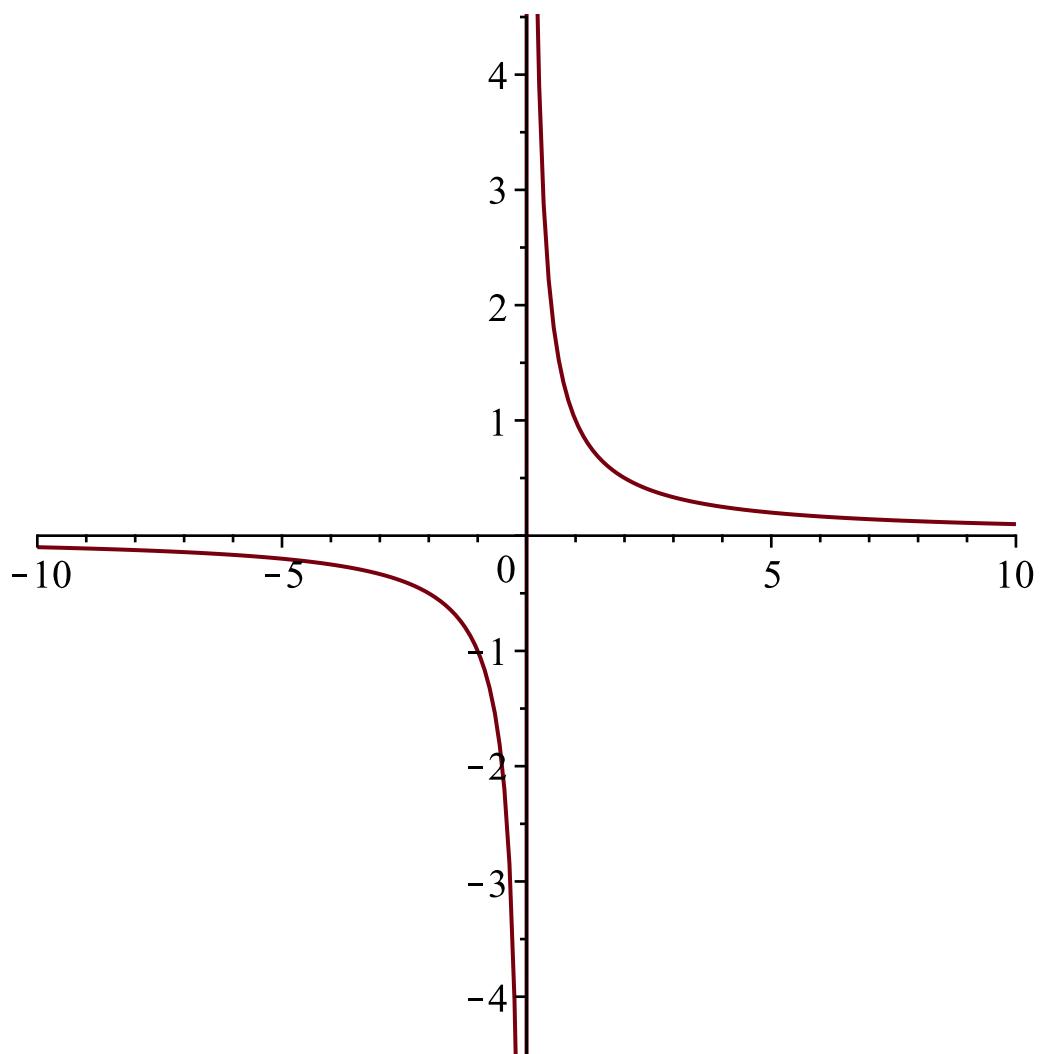
$$\textcolor{brown}{\triangleright} \int_{-1}^1 g \, d\textcolor{violet}{x}; \quad -e^{-1} + e \quad (10)$$

$$f := \text{unapply}(\text{D}@@2)(g)(x), x); \\ f := x \mapsto \text{D}^{(2)}(\text{e}^x)(x) - \text{D}^{(2)}(\sin(x))(x) \quad (11)$$

(13)

$$\cancel{J} := \text{unapply}\left(\frac{\partial}{\partial x}, x\right), \quad f := x \mapsto \frac{1}{x} \quad (14)$$

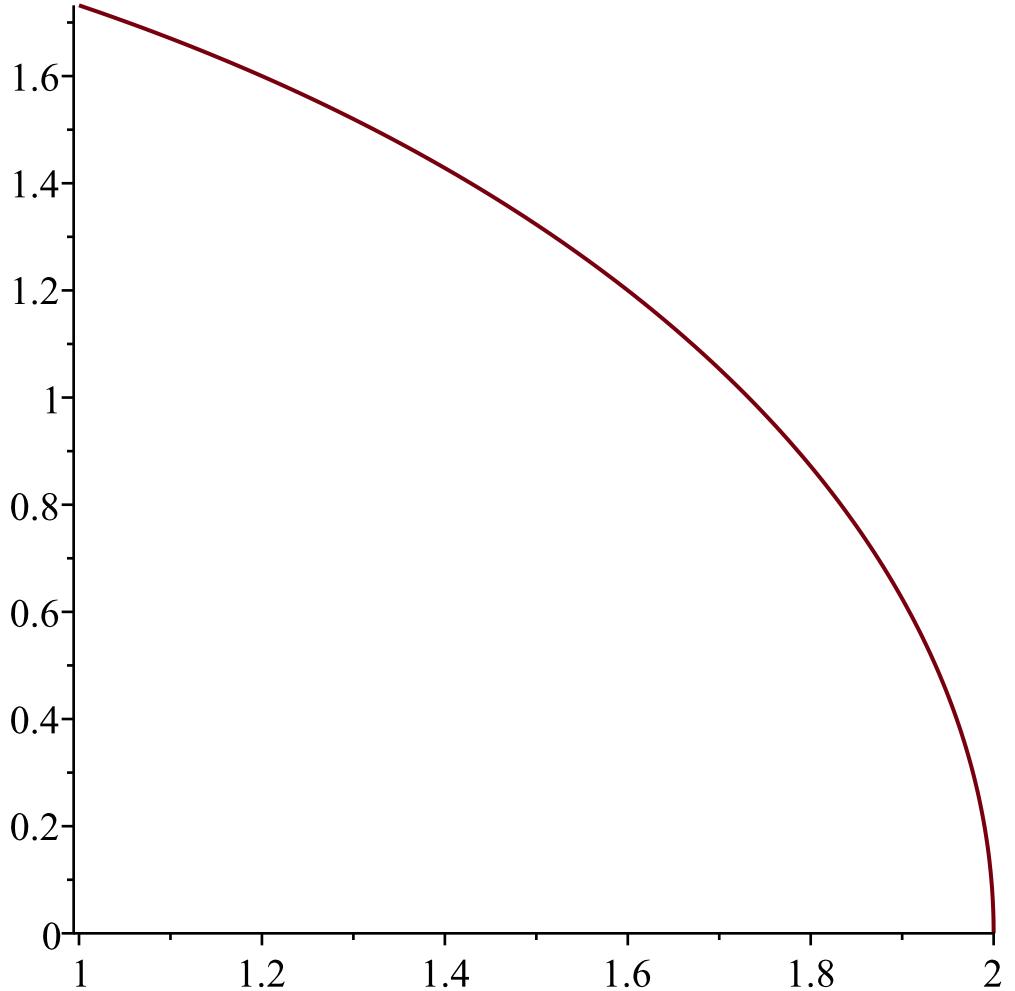
```
> plot(f);
```



>  $x\_a := 2 \cdot \cos\left(\frac{t}{3}\right);$  (15)  
 $x\_a := 2 \cos\left(\frac{t}{3}\right)$

>  $y\_a := 2 \cdot \sin\left(\frac{t}{3}\right);$  (16)  
 $y\_a := 2 \sin\left(\frac{t}{3}\right)$

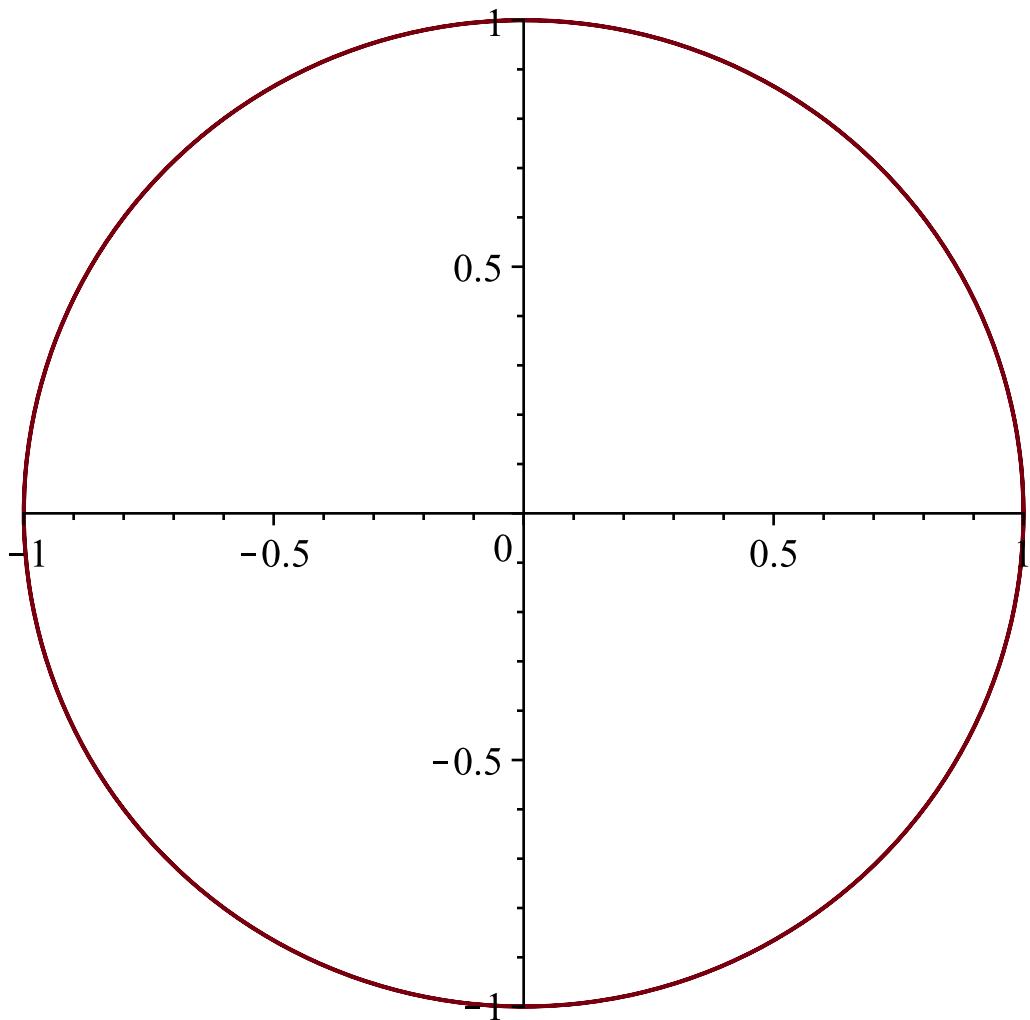
>  $\text{plot}([x\_a, y\_a, t=0 .. \pi]);$



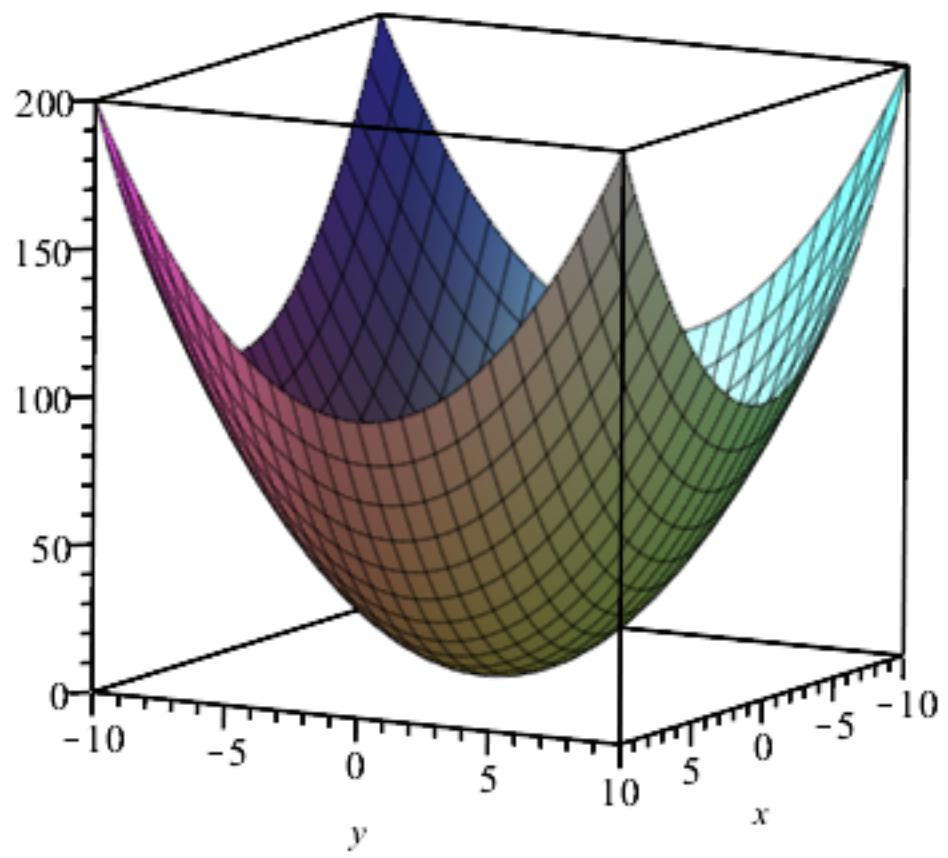
>  $x\_b := \cos(4 \cdot t);$   $x\_b := \cos(4 \, t)$  (17)

>  $y\_b := \sin(4 \cdot t);$   $y\_b := \sin(4 \, t)$  (18)

>  $\text{plot}([x\_b, y\_b, t=0..\pi]);$



```
> H := unapply(x^2 + y^2, x, y);  
H := (x, y) ↪ y2 + x2 (19)  
> plot3d(H(x, y), x = -10 .. 10, y = -10 .. 10);
```



▶

▶

▶