

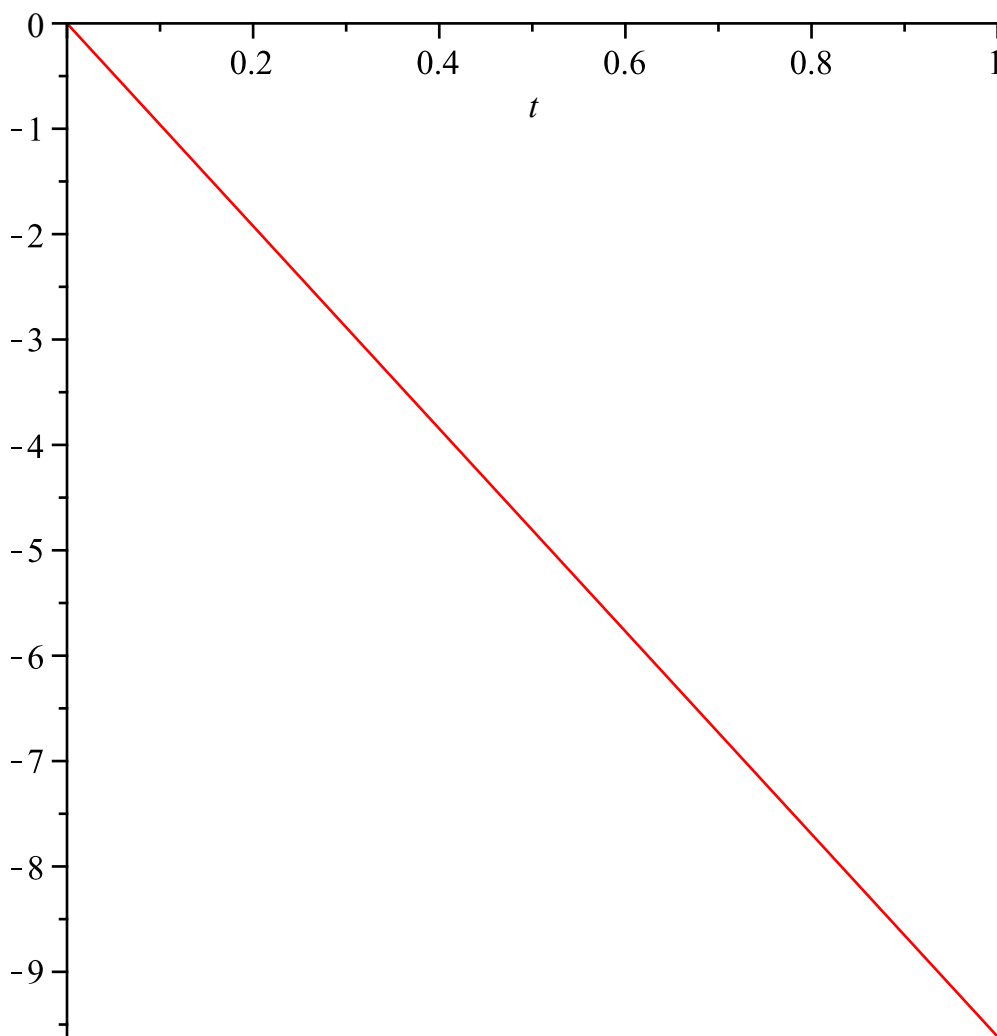
```
[> restart
> EcuacionUno := diff(v(t), t) = - 96151/10000
      EcuacionUno :=  $\frac{d}{dt} v(t) = - \frac{96151}{10000}$  (1)
```

```
> CondicionInicialUno := v(0) = 0
      CondicionInicialUno :=  $v(0) = 0$  (2)
```

```
> SolucionUno := dsolve(EcuacionUno)
      SolucionUno :=  $v(t) = - \frac{96151}{10000} t + \_CI$  (3)
```

```
> SolucionUnoParticular := dsolve({EcuacionUno, CondicionInicialUno})
      SolucionUnoParticular :=  $v(t) = - \frac{96151}{10000} t$  (4)
```

```
> plot(rhs(SolucionUnoParticular), t=0..1)
```



```
> EcuacionDos := diff(y(t), t) = rhs(SolucionUnoParticular)
      EcuacionDos :=  $\frac{d}{dt} y(t) = - \frac{96151}{10000} t$  (5)
```

>  $CondicionInicialDos := y(0) = \frac{2047}{1000}$

$$CondicionInicialDos := y(0) = \frac{2047}{1000} \quad (6)$$

>  $SolucionDos := dsolve(EcuacionDos)$

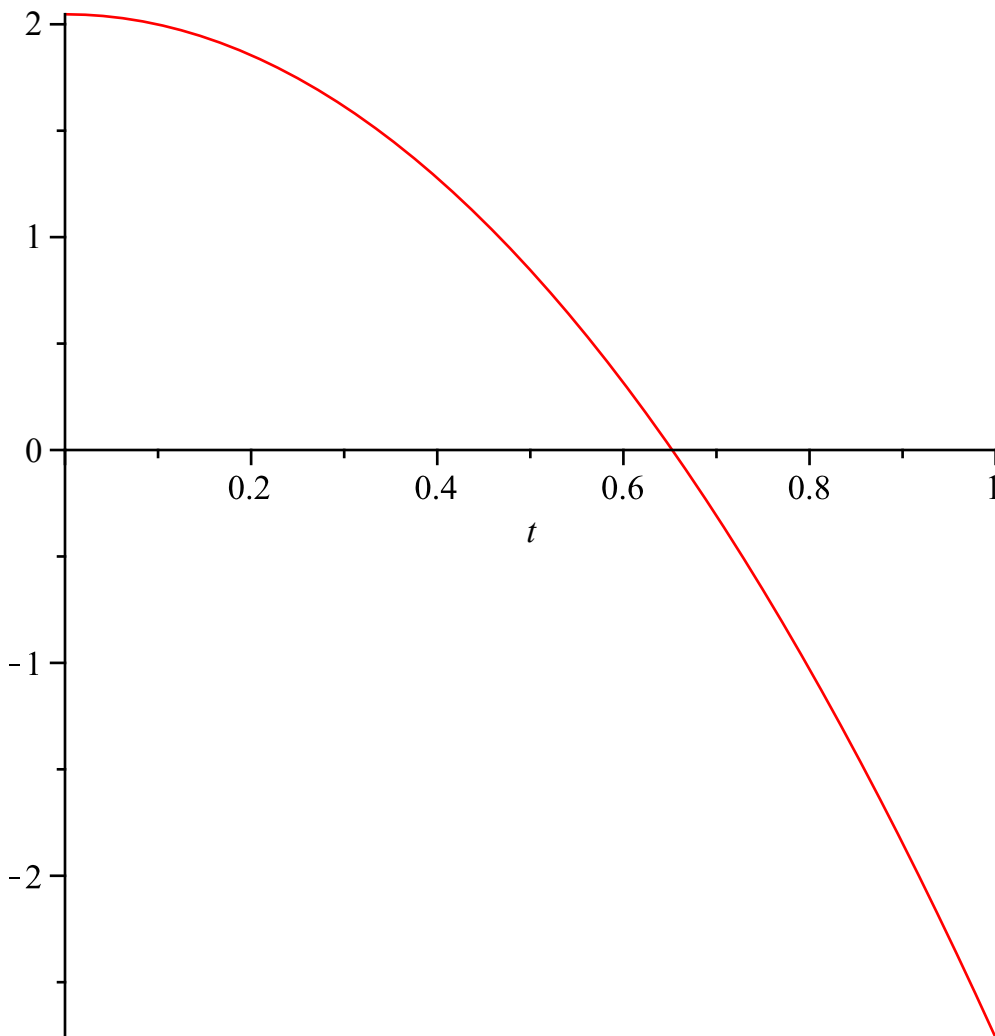
$$SolucionDos := y(t) = -\frac{96151}{20000} t^2 + \_C1 \quad (7)$$

>

>  $SolucionDosParticular := dsolve(\{EcuacionDos, CondicionInicialDos\})$

$$SolucionDosParticular := y(t) = -\frac{96151}{20000} t^2 + \frac{2047}{1000} \quad (8)$$

>  $plot(rhs(SolucionDosParticular), t=0..1)$



>  $TiempoCaida := solve(rhs(SolucionDosParticular) = 0, t) : evalf(\%)$   
 $-0.6525247915, 0.6525247915$

(9)

>  $VelocidadImpacto := subs(t=TiempoCaida_2, rhs(SolucionUnoParticular)); evalf(\%);$   
 $evalf(\%)\cdot 3.6$

$$VelocidadImpacto := -\frac{1}{5000} \sqrt{984105485}$$



-6.274091122  
-22.58672804

**(10)**