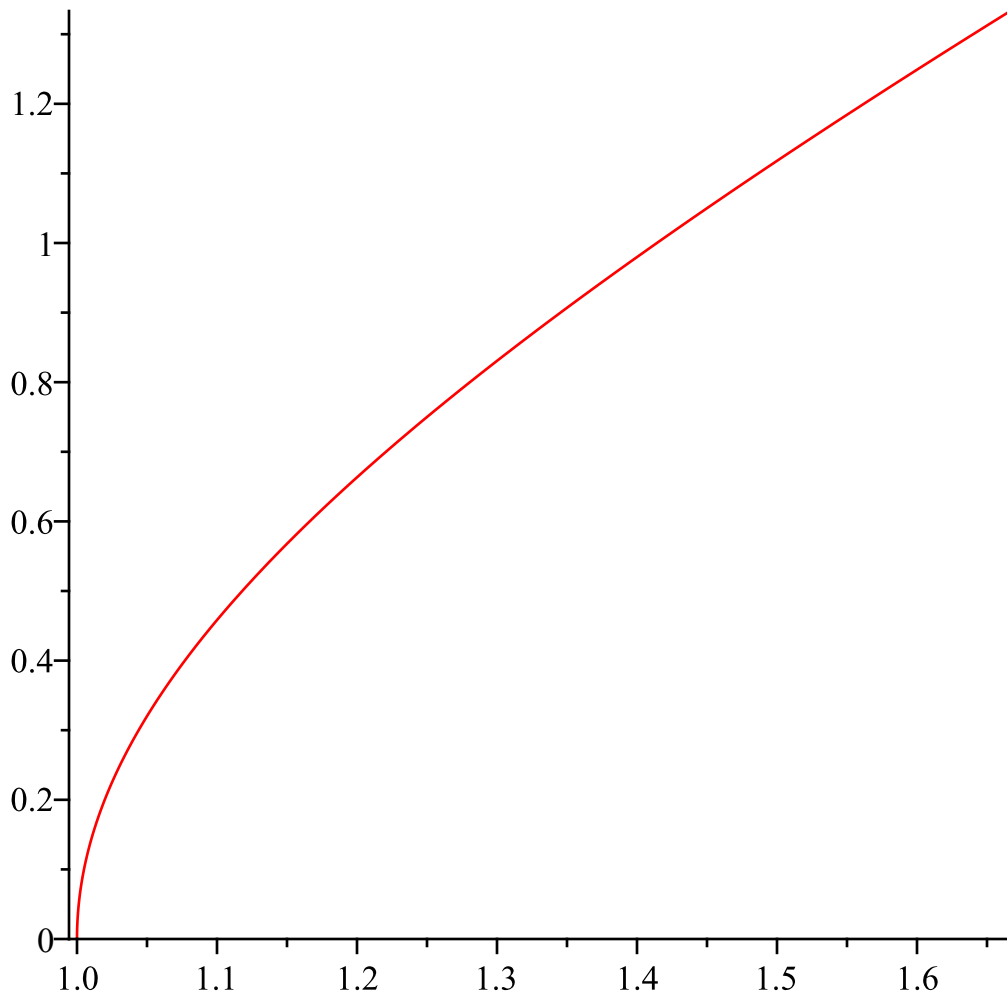


```

> restart;
> f:=cosh(t);
                                     f:= cosh(t)
(1)
> g:=sinh(t);
                                     g := sinh(t)
(2)
> df:=diff(f,t);
                                     df:= sinh(t)
(3)
> dg:=diff(g,t);
                                     dg := cosh(t)
(4)
> Int(sqrt(df^2+dg^2),t=0..b);
                                      $\int_0^b \sqrt{\sinh(t)^2 + \cosh(t)^2} dt$ 
(5)
> b:=arcsinh(4/3);
                                     b := arcsinh( $\frac{4}{3}$ )
(6)
> L:=int(sqrt(df^2+dg^2),t=0..b);
L:=  $\frac{1}{2} \sqrt{2} \text{EllipticK}\left(\frac{1}{2} \sqrt{2}\right) - \frac{1}{2} \sqrt{2} \text{EllipticF}\left(\frac{3}{5}, \frac{1}{2} \sqrt{2}\right) - \sqrt{2} \text{EllipticE}\left(\frac{1}{2} \sqrt{2}\right)$ 
    +  $\sqrt{2} \text{EllipticE}\left(\frac{3}{5}, \frac{1}{2} \sqrt{2}\right) + \frac{4}{15} \sqrt{41}$ 
(7)
> ?EllipticK
> evalf(L);
                                     1.517891120
(8)
> Digits:=20;
                                     Digits := 20
(9)
> evalf(L);
                                     1.5178911205854935875
(10)
> plot([f(t),g(t),t=0..b]);

```



```
> f:=erf(t);
```

```
f:= erf(t)
```

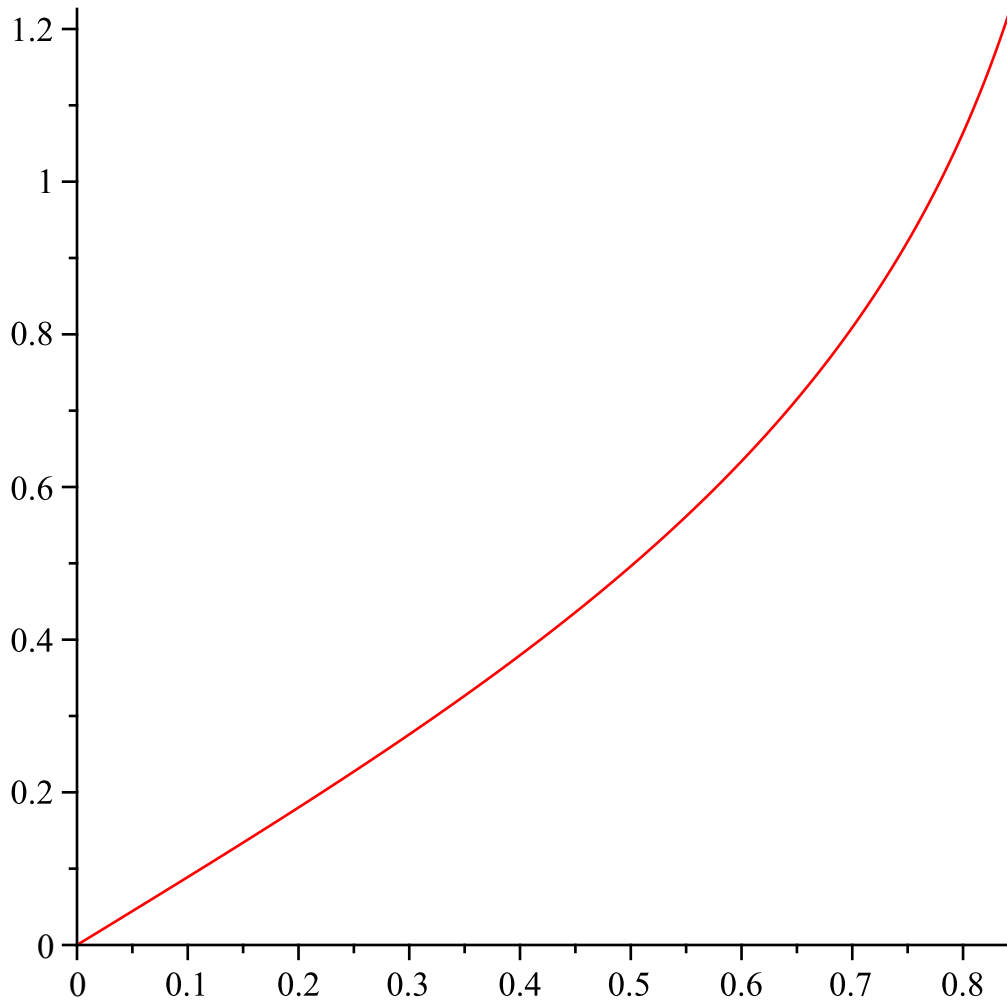
(11)

```
> g:=InverseJacobiAM(t,1);
```

```
g:= InverseJacobiAM(t, 1)
```

(12)

```
> plot([f,g,t=0..1]);
```



```
> df:=diff(f,t);
```

$$df := \frac{2 e^{-t^2}}{\sqrt{\pi}} \quad (13)$$

```
> dg:=diff(g,t);
```

$$dg := \frac{1}{\sqrt{1 - \sin(t)^2}} \quad (14)$$

```
> L:=int(sqrt(df^2+dg^2),t=0..1);
```

$$L := \int_0^1 \sqrt{\frac{4 (e^{-t^2})^2}{\pi} + \frac{1}{1 - \sin(t)^2}} dt \quad (15)$$

```
> evalf(L);
```

$$1.5193427292478513213 \quad (16)$$

```
>
```