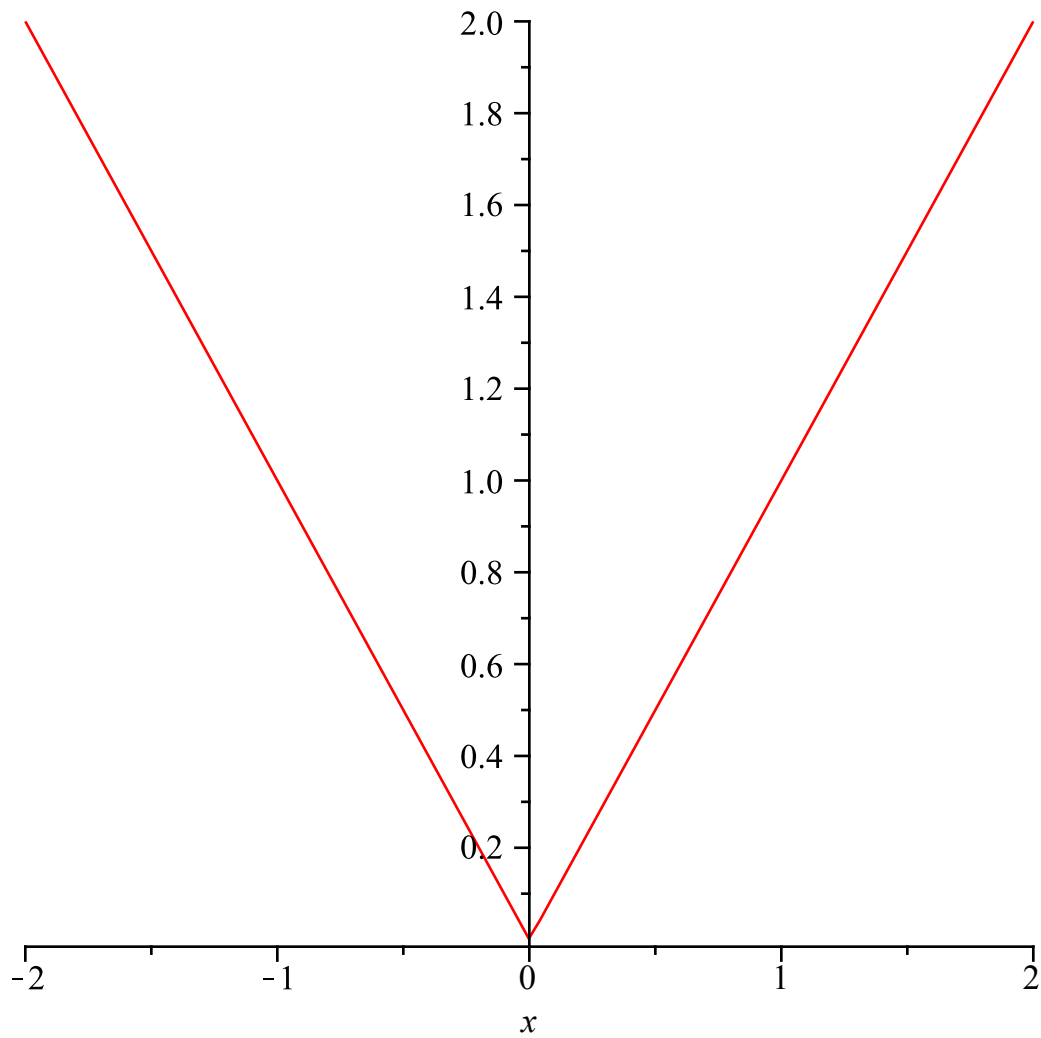


```

> restart
> f(x) := abs(x);
> plot(f(x), x=-2..2);

```

(1)



```

> L := 2;

```

(2)

```

> a_0 := (1/L) * int(f(x), x=-L..L)

```

(3)

```

> C := a_0/2;

```

(4)

```

> a_n := (1/L) * int(f(x) * cos(n*Pi*x/L), x=-L..L);

```

(5)

$$a_n := \frac{4 (\cos(n \pi) + n \pi \sin(n \pi) - 1)}{n^2 \pi^2}$$

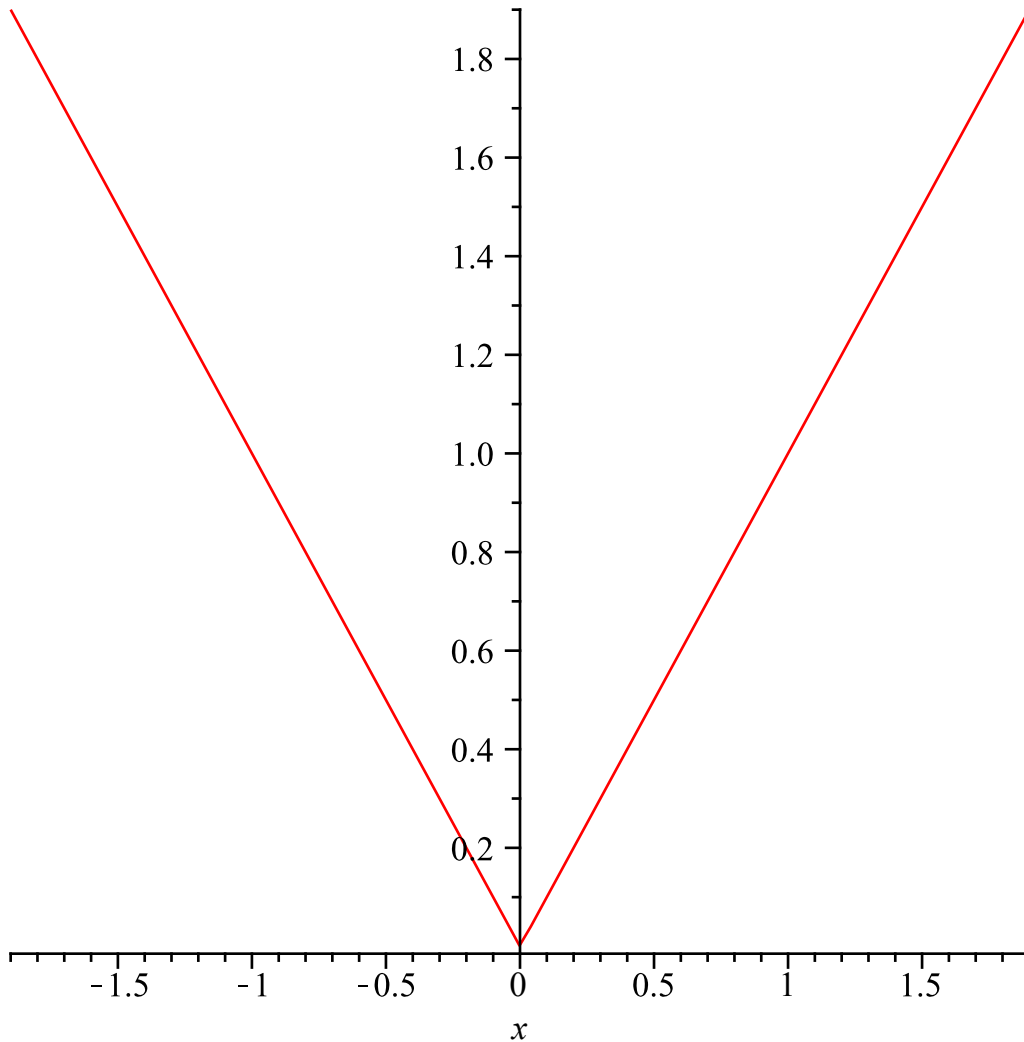
```
> b_n := ( 1 / L ) · int( f(x) · sin( n·Pi·x / L ), x=-L..L );
```

$b_n := 0$

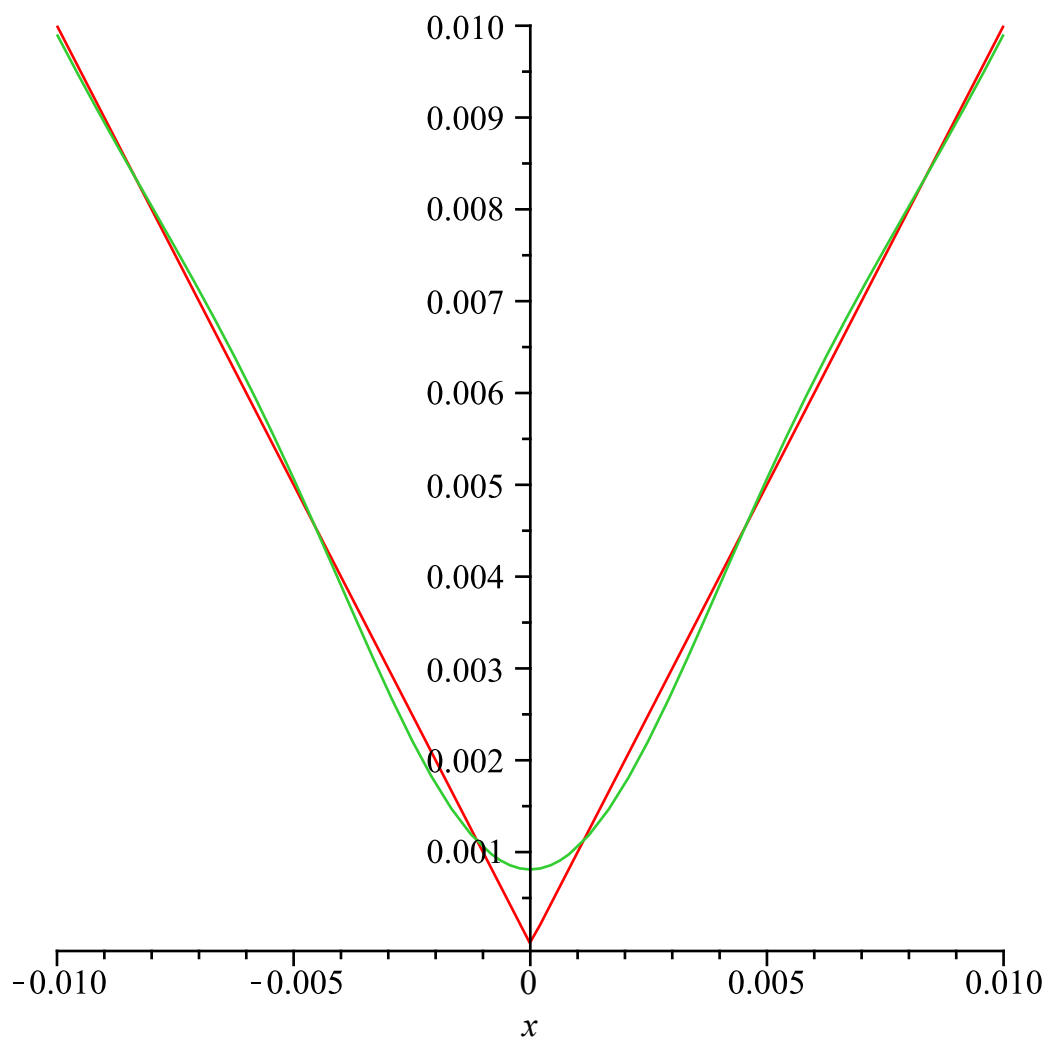
(6)

```
> STF_500 := C + sum( a_n · cos( n·Pi·x / L ), n = 1 .. 500 ) :
```

```
> plot( STF_500, x=-1.9..1.9 );
```



```
> plot( [ f(x), STF_500 ], x=-0.01..0.01 )
```



```
> plot(STF500, x=-5 ..5);
```

