

```
> assume(n, integer);
> int(sin((2*n+1)*Pi*x)/(2*a), x=0..a);
```

$$\frac{2a}{\pi(2n+1)} \quad (1)$$

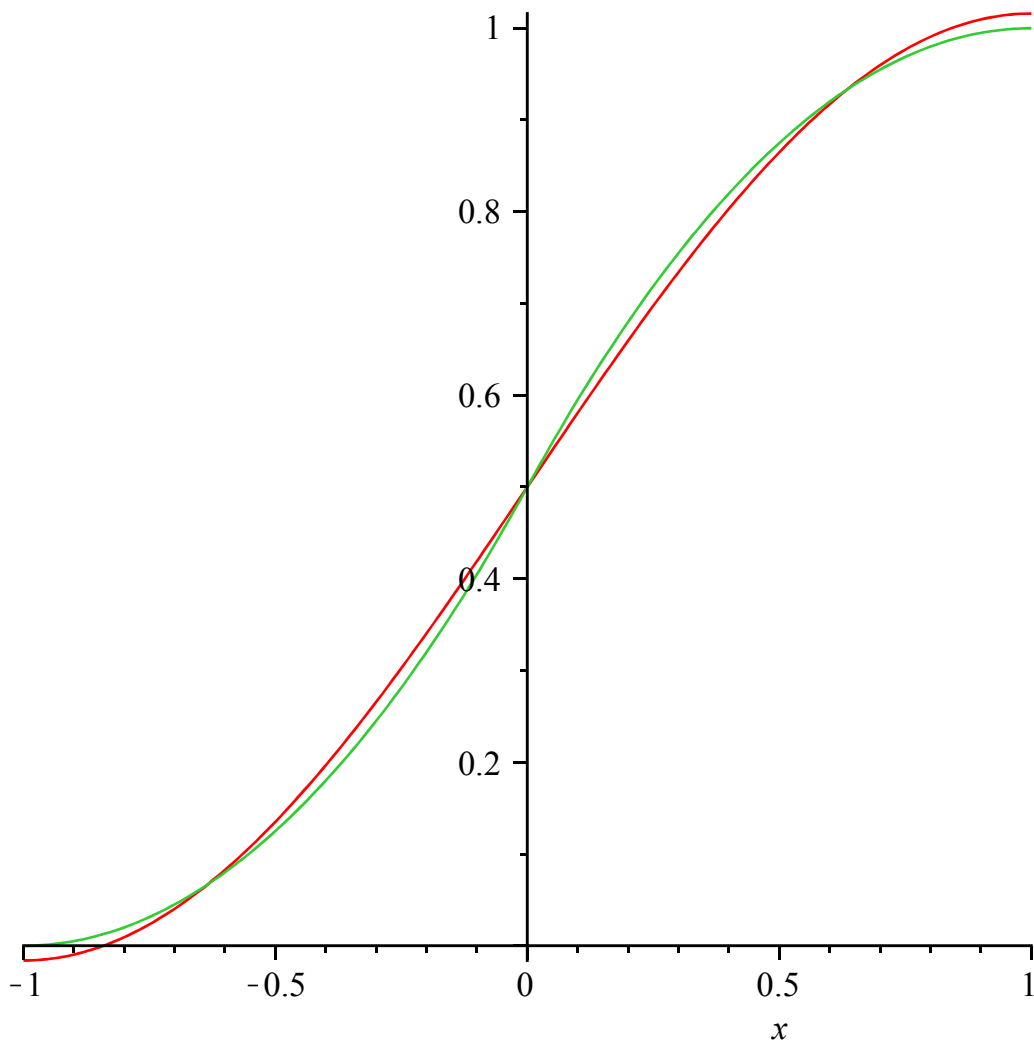
```
> -int(sin((2*n+1)*Pi*x)/(2*a), x=-a..0);
```

$$\frac{2a}{\pi(2n+1)} \quad (2)$$

```
> g := (x, NN) -> 1/2 + 16*sum(sin((2*n'+1)*Pi*x)/2 * 1/(Pi*(2*n'+1))^3, n'=0..NN);
```

$$g := (x, NN) \rightarrow \frac{1}{2} + 16 \left( \sum_{n'=0}^{NN} \frac{\sin\left(\frac{1}{2}(2n'+1)\pi x\right)}{(2n'+1)^3 \pi^3} \right) \quad (3)$$

```
> plot([evalf(g(x, 0)), evalf(g(x, 10))], x=-1..1);
```



```
> f := x -> piecewise(x < -1, 0, -1 < x < 0, -1, 0 < x < 1, 1, 0);
```

(4)

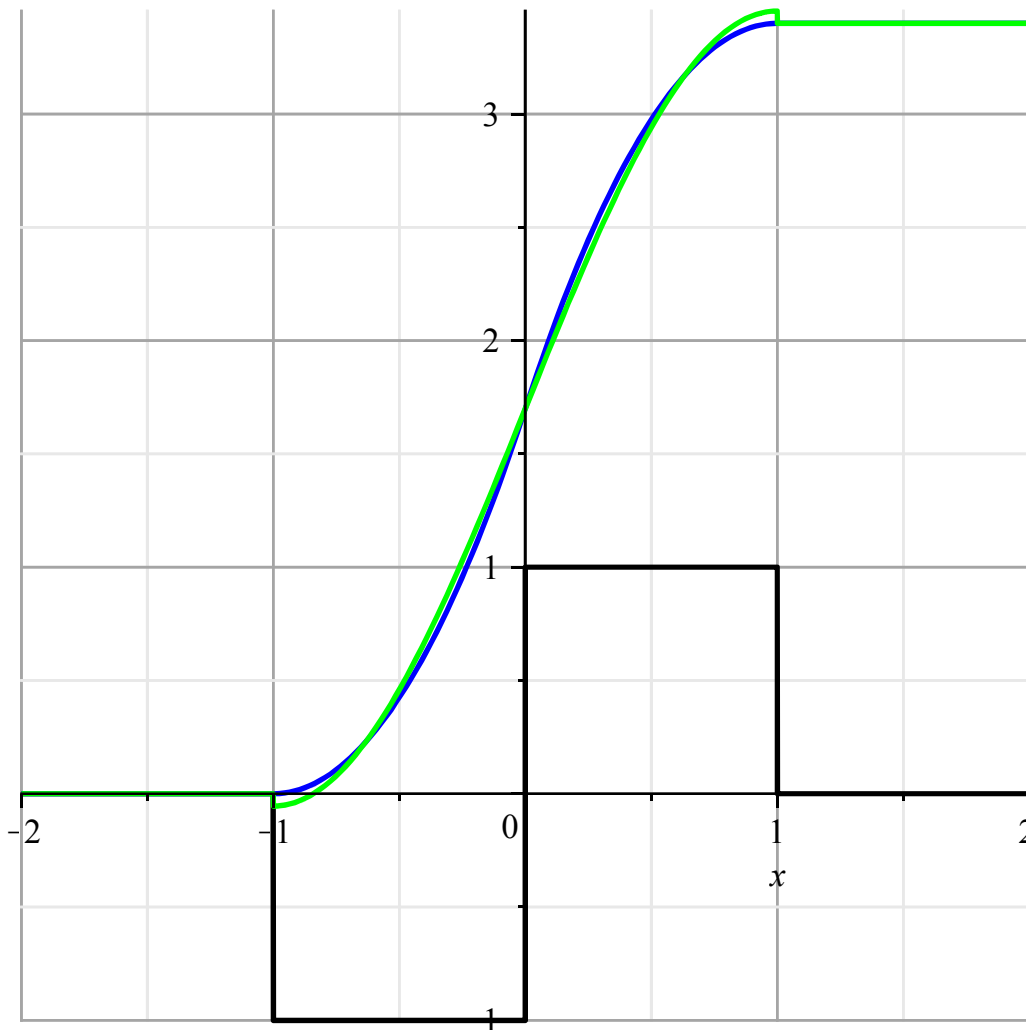
```
f:=x→piecewise(x < -1, 0, -1 < x and x < 0, -1, 0 < x and x < 1, 1, 0) (4)
```

```
> v := x→piecewise(x < -1, 0, -1 < x < 0, 3.4· $\frac{1}{2}$ ·(1+x)2, 0 < x < 1, 3.4· $\left(1-\frac{1}{2}·(x-1)^2\right)$ ,  
3.4);
```

```
v := x→piecewise(x < -1, 0, -1 < x and x < 0, 3.4· $\frac{1}{2}$ ·(1+x)2, 0 < x and x < 1, 3.4· $\left(1-\frac{1}{2}·(x-1)^2\right)$ , 3.4) (5)
```

```
> vs := x→piecewise(x < -1, 0, -1 < x < 1, evalf(g(x, 0)·3.4), 3.4);  
vs := x→piecewise(x < -1, 0, -1 < x and x < 1, evalf(g(x, 0)·3.4), 3.4) (6)
```

```
> plot([f(x), v(x), vs(x)], x=-2..2, color=[black, blue, green], thickness=2, gridlines=true);
```



```
>
```