## Using Maple to plot singularity functions

Define singularity function "sfn" using Heaviside function

```
> sfn := proc(x,a,n) (x-a)^n * Heaviside(x-a) end;
```

$$sfn := \mathbf{proc}(x, a, n)\ (x - a)\text{^}n * \text{Heaviside}(x - a)\ \mathbf{end}$$

Example: bending moment in three-point bending

```
> M:= (x)-> (P/2)*sfn(x,0,1) - P*sfn(x,L/2,1);
```

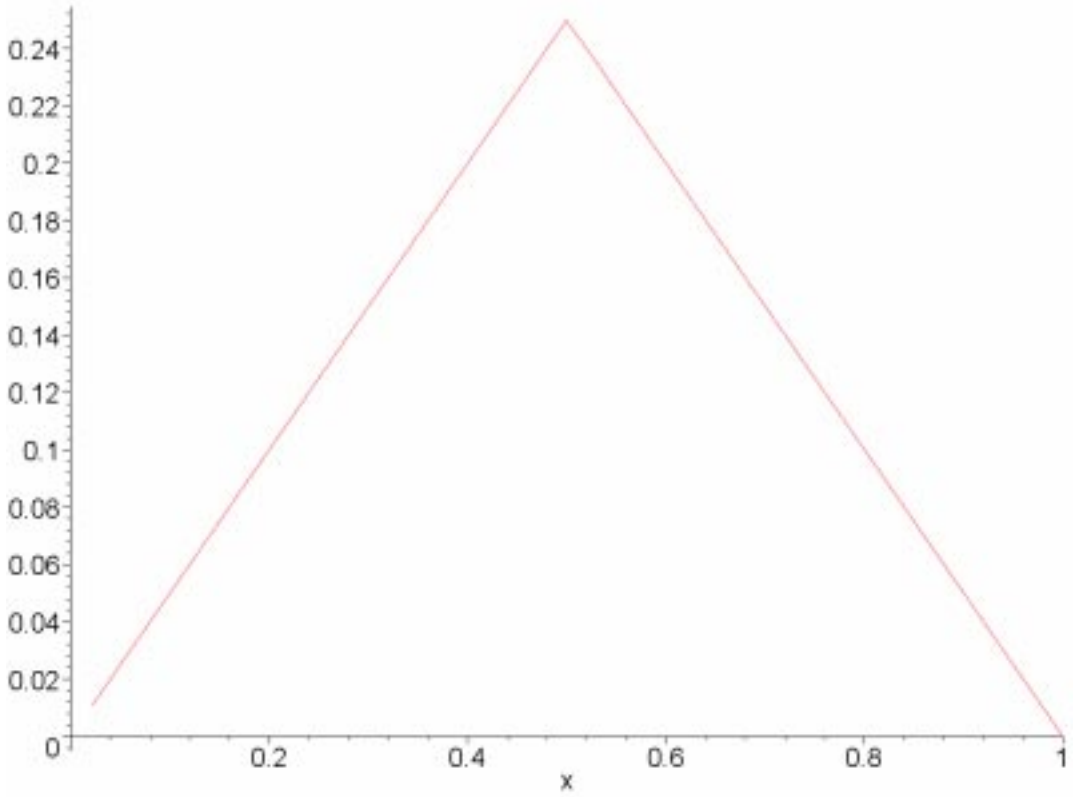
$$M := x \rightarrow \frac{1}{2} P\ \text{sfn}(x, 0, 1) - P\ \text{sfn}\left(x, \frac{1}{2} L, 1\right)$$

Define numerical parameters for plotting purposes

```
> Digits:=4:P:=1:L:=1:
```

Construct plot

```
> plot(M(x),x=0..L);
```




```
>
```