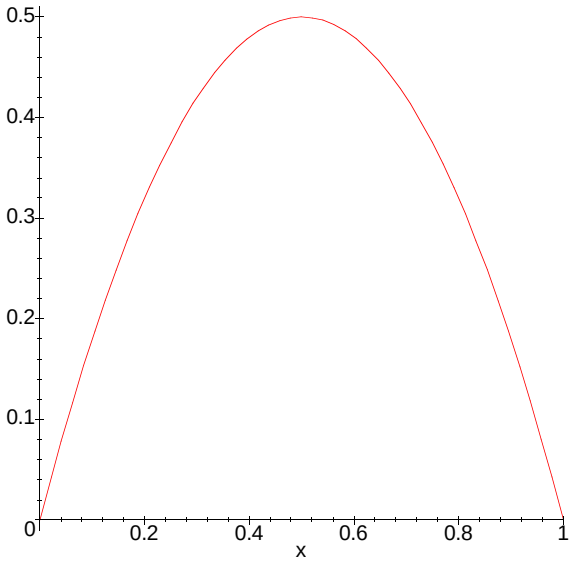
```
> gE := x -> A*x*(1-x);
```

$$gE := x \to A\,x\,(1-x)$$

```
> plot(subs(A=2,gE(x)),x=0..1);
```




```
> lnGamma1 := simplify(diff((n1+n2)*gE(n1/(n1+n2)),n1)):
  lnGamma1 := simplify(subs(n1=n*x,n2=n*(1-x),lnGamma1));
```

$$lnGamma1 := A\,(-1+x)^2$$

```
> lnGamma2 := simplify(diff((n1+n2)*gE(n1/(n1+n2)),n2)):
  lnGamma2 := simplify(subs(n1=n*x,n2=n*(1-x),lnGamma2));
```

$$lnGamma2 := A\,x^2$$

```
> simplify(x*lnGamma1 + (1-x)*lnGamma2);
```

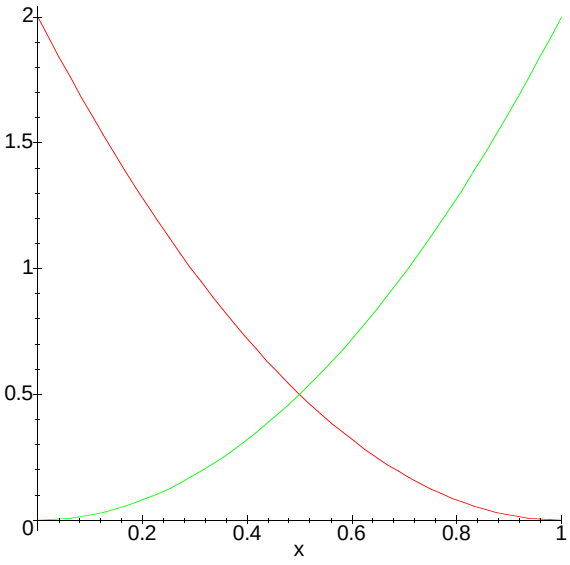
$$A\,x - A\,x^2$$

```
> simplify(x*diff(lnGamma1,x) + (1-x)*diff(lnGamma2,x));
```

$$0$$

```
> plot(subs(A=2,{lnGamma1,lnGamma2}),x=0..1);
```

>


2
1.5
1
0.5
0
0.2
0.4
0.6
0.8
1
x