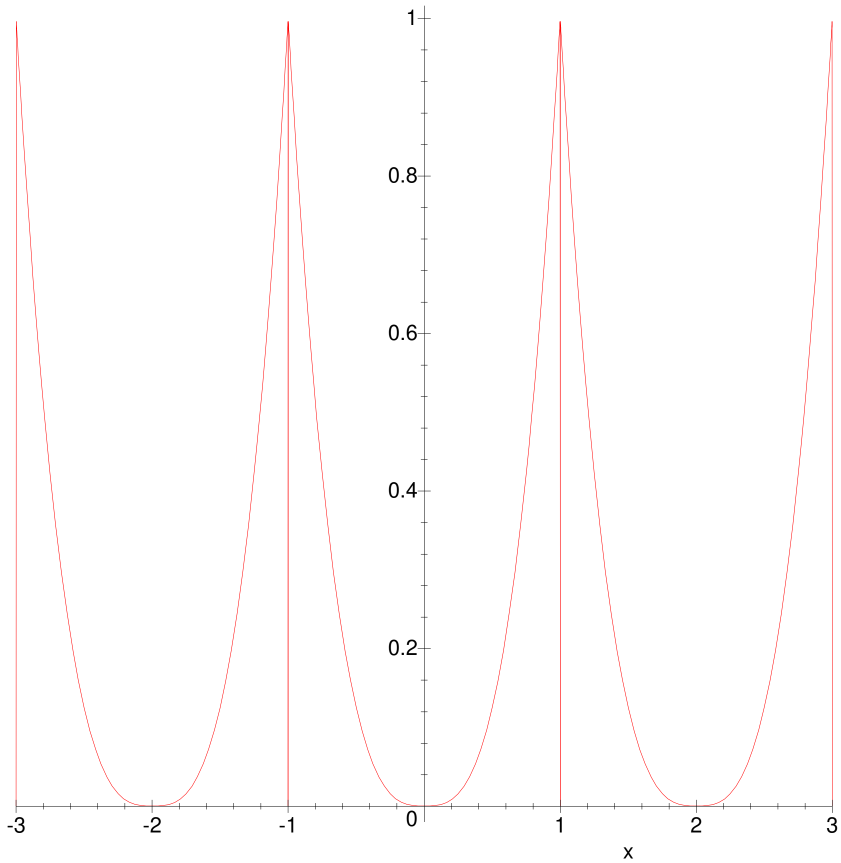
```
> f:=x->piecewise(x>0 and x<1,x^3,x>-1 and x <0, -x^3);
```

$$f := x \rightarrow \text{piecewise}(0 < x \textbf{ and } x < 1, x^3, -1 < x \textbf{ and } x < 0, -x^3)$$

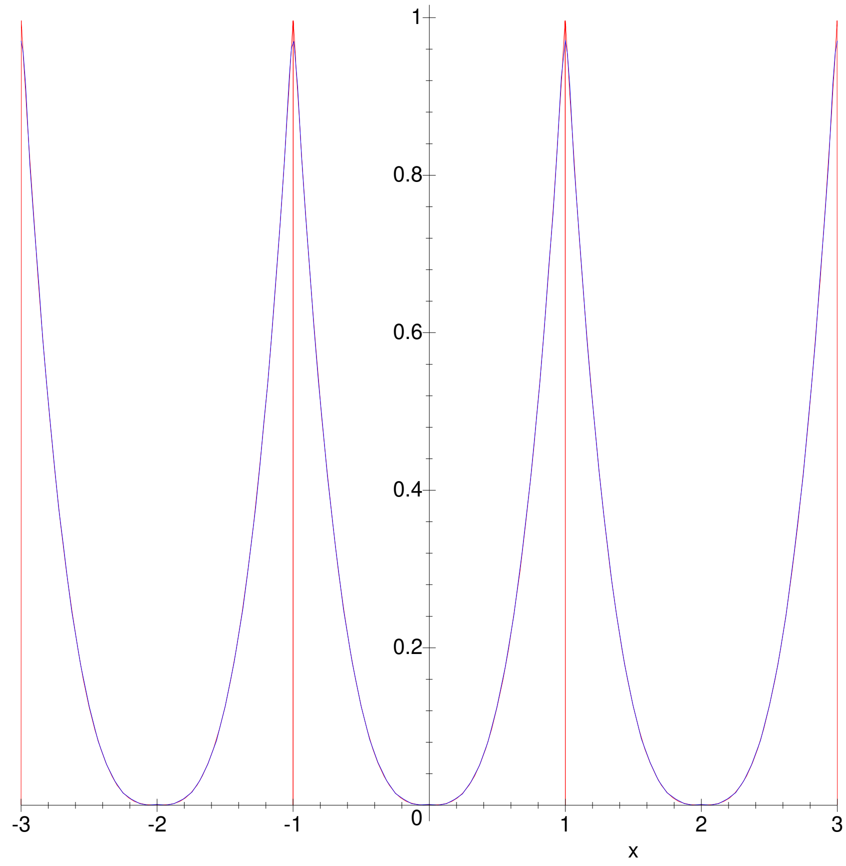
```
> fp:=plot(f(x),x=-1..1):
> fp1:=plot(f(x-2),x=1..3):
> fp2:=plot(f(x+2),x=-3..-1):
> with(plots):
> display({fp,fp1,fp2});
```




```
> a0:=int(x^3,x=0..1):an:=2*int(x^3*cos(n*Pi*x),x=0..1):an:=simplify
  (subs(sin(n*Pi)=0,an));
```

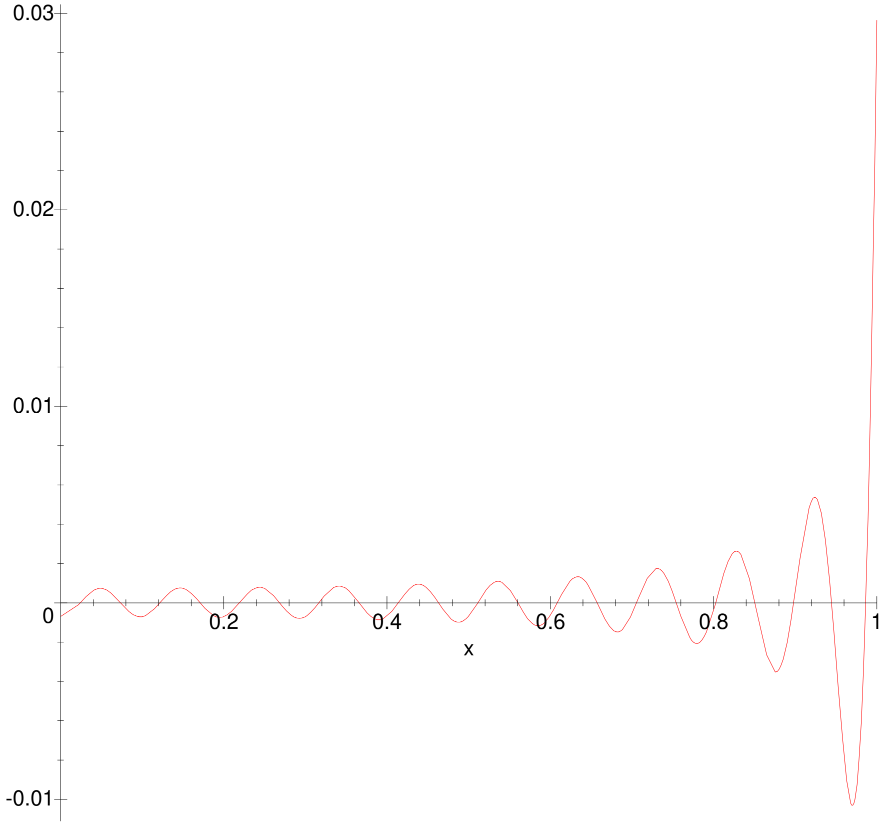
$$an := 6\,\frac{n^2\,\pi^2\cos(n\,\pi) - 2\cos(n\,\pi) + 2}{n^4\,\pi^4}$$

```
> fsumma20:=plot(a0+sum(an*cos(n*Pi*x),n=1..20),x=-3..3,color=blue):
> display({fp,fp1,fp2,fsumma20});
```



Tuossa ei nay eroa lainkaan. Katsotaan alkup. funktion ja sarjan osasumman erotusta:

```
> plot(x^3-a0-sum(an*cos(n*Pi*x),n=1..20),x=0..1);
```


0.03
0.02
0.01
0
-0.01
0.2
0.4
0.6
0.8
1
x

>

>