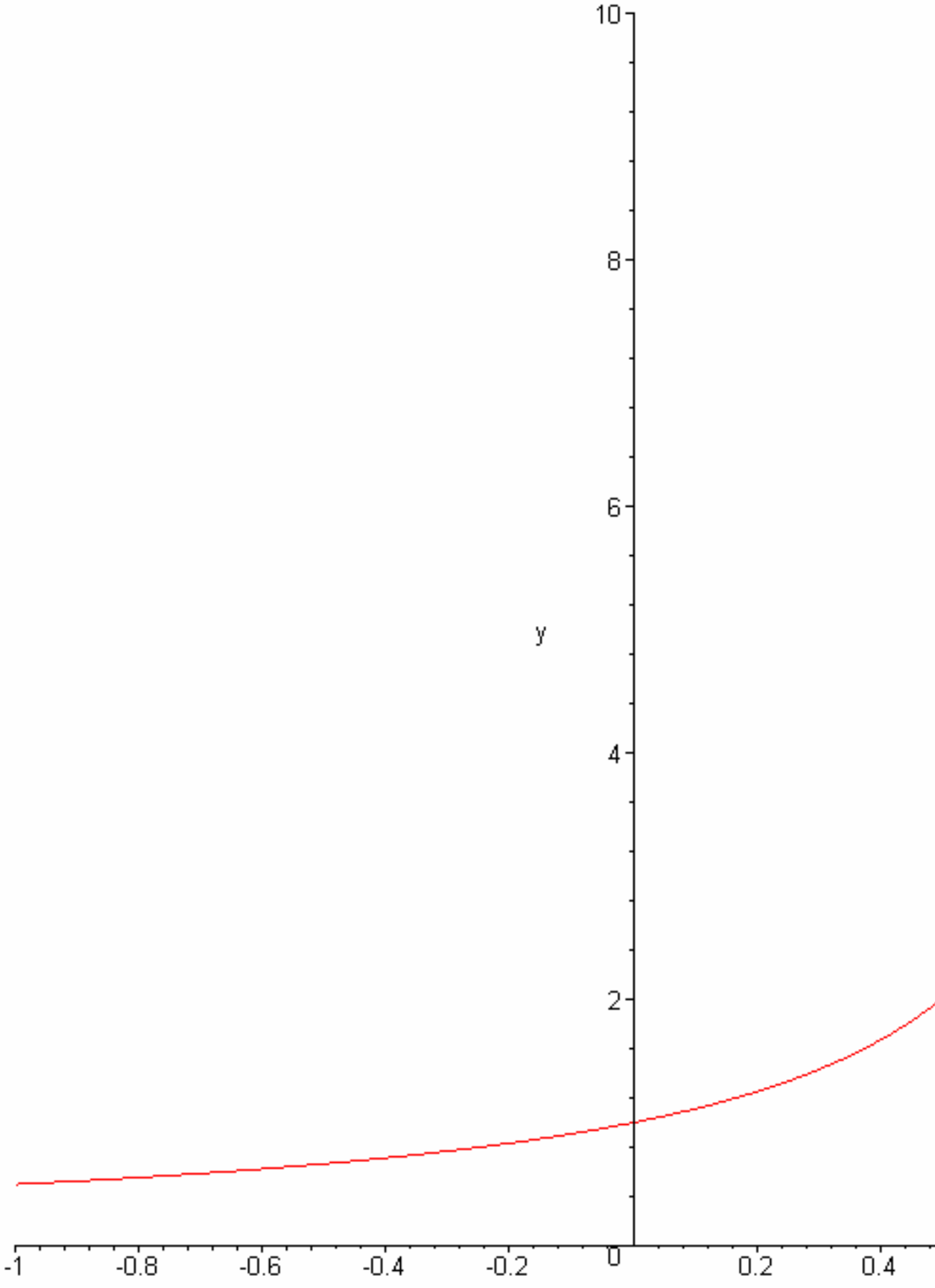
Demo of power series.

```
> plot(1/(1-x),x=-1..1,y=0..10);
```


10
8
6
y
4
2
0
-1
-0.8
-0.6
-0.4
-0.2
0.2
0.4

```
> a:=(k,x)->x^k;
```

$$a := (k, x) \to x^k$$

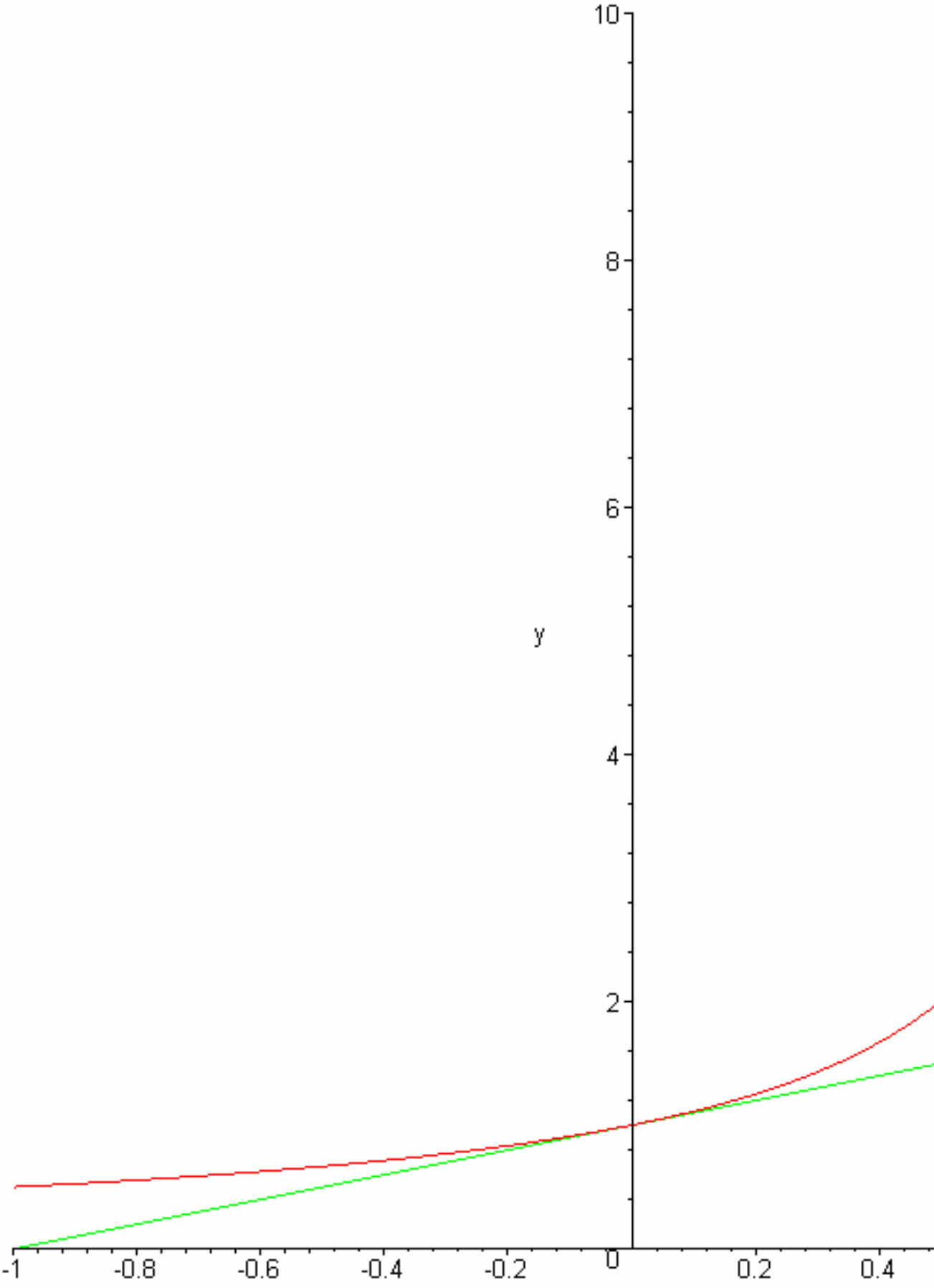
```
> s:=(n,x)->sum(a(k,x),k=0..n-1);
```

$$s := (n, x) \to \sum_{k=0}^{n-1} \mathrm{a}(k, x)$$

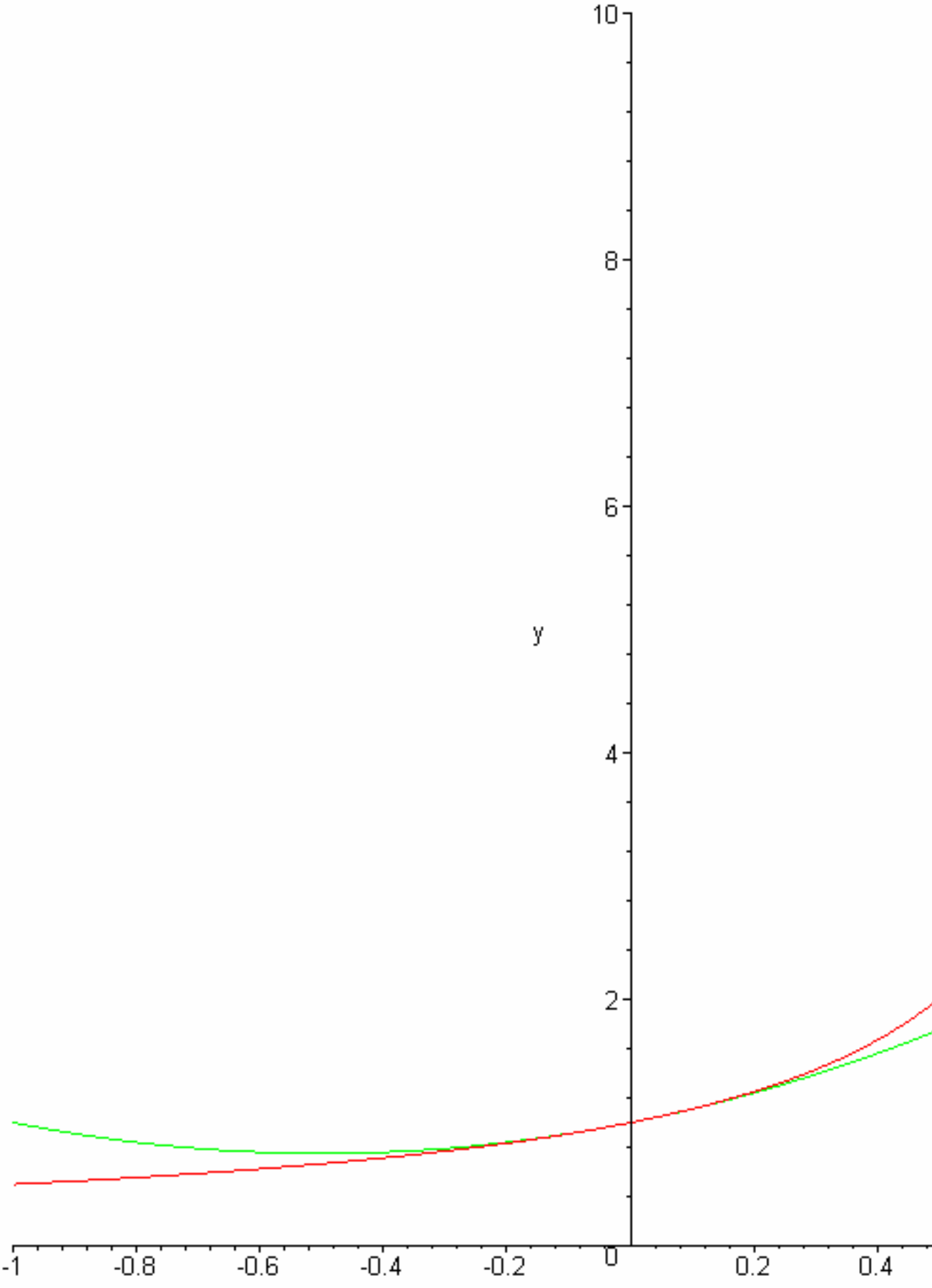
```
> eval(s(n,x));
```

$$\frac{x^n}{x-1} - \frac{1}{x-1}$$

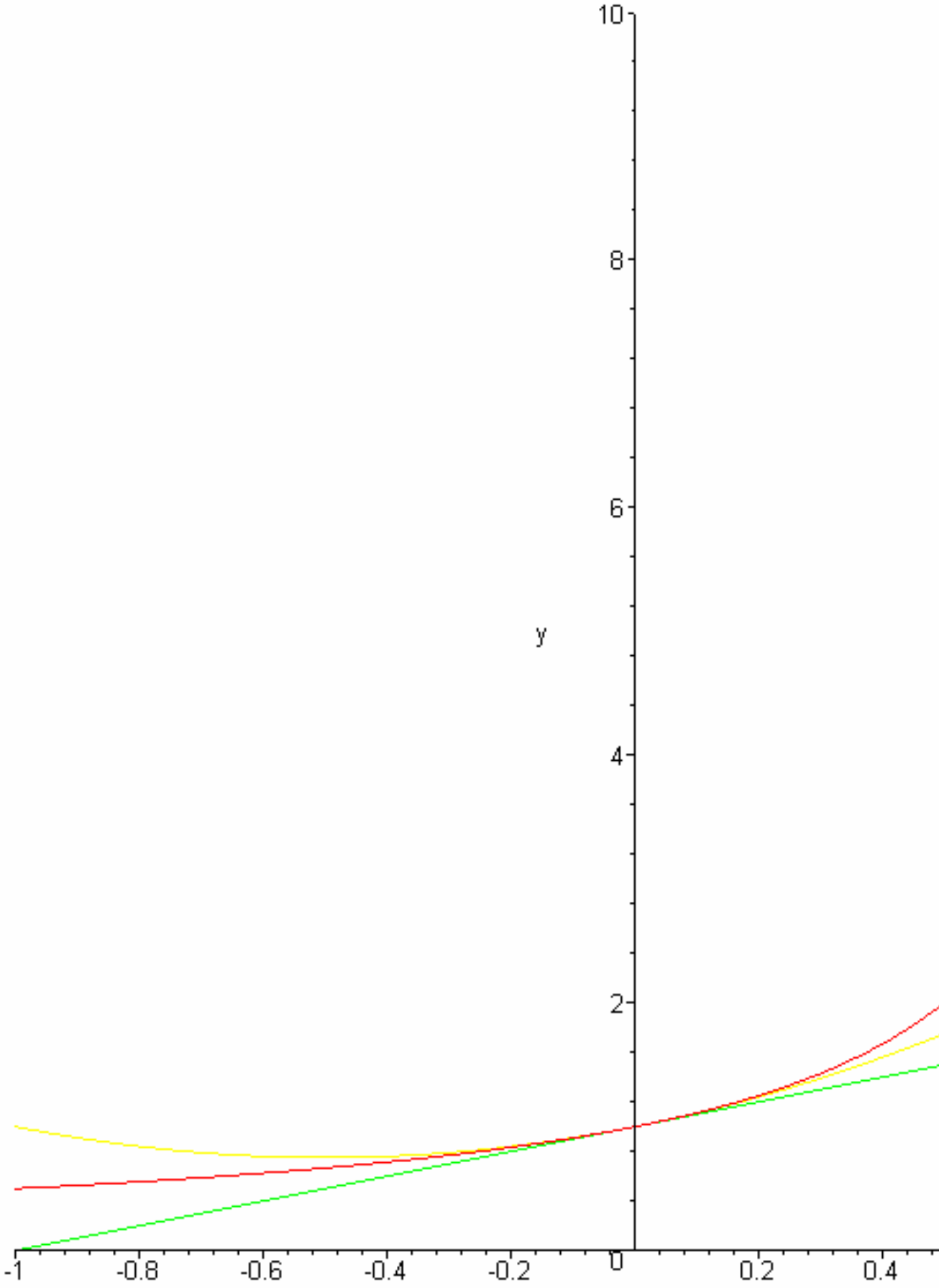
```
> plot([1/(1-x),1+x],x=-1..1,y=0..10);
```


10
8
6
y
4
2
0
-1
-0.8
-0.6
-0.4
-0.2
0.2
0.4

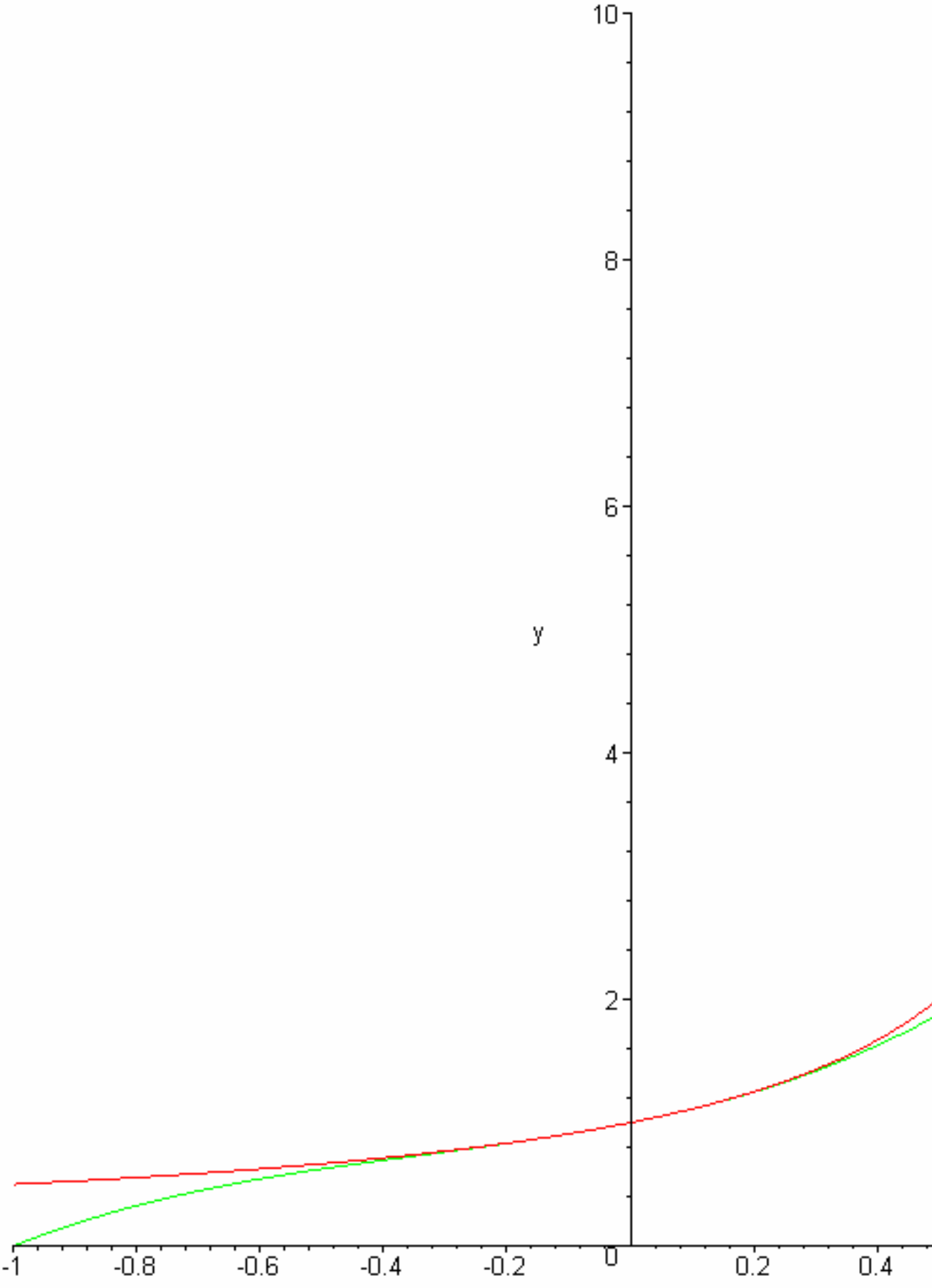
```
> plot([1/(1-x),1+x+x^2],x=-1..1,y=0..10);
```


10
8
6
y
4
2
0
-1
-0.8
-0.6
-0.4
-0.2
0.2
0.4

```
> plot([1/(1-x),1+x,1+x+x^2],x=-1..1,y=0..10);
```


10
8
6
y
4
2
0
-1
-0.8
-0.6
-0.4
-0.2
0.2
0.4

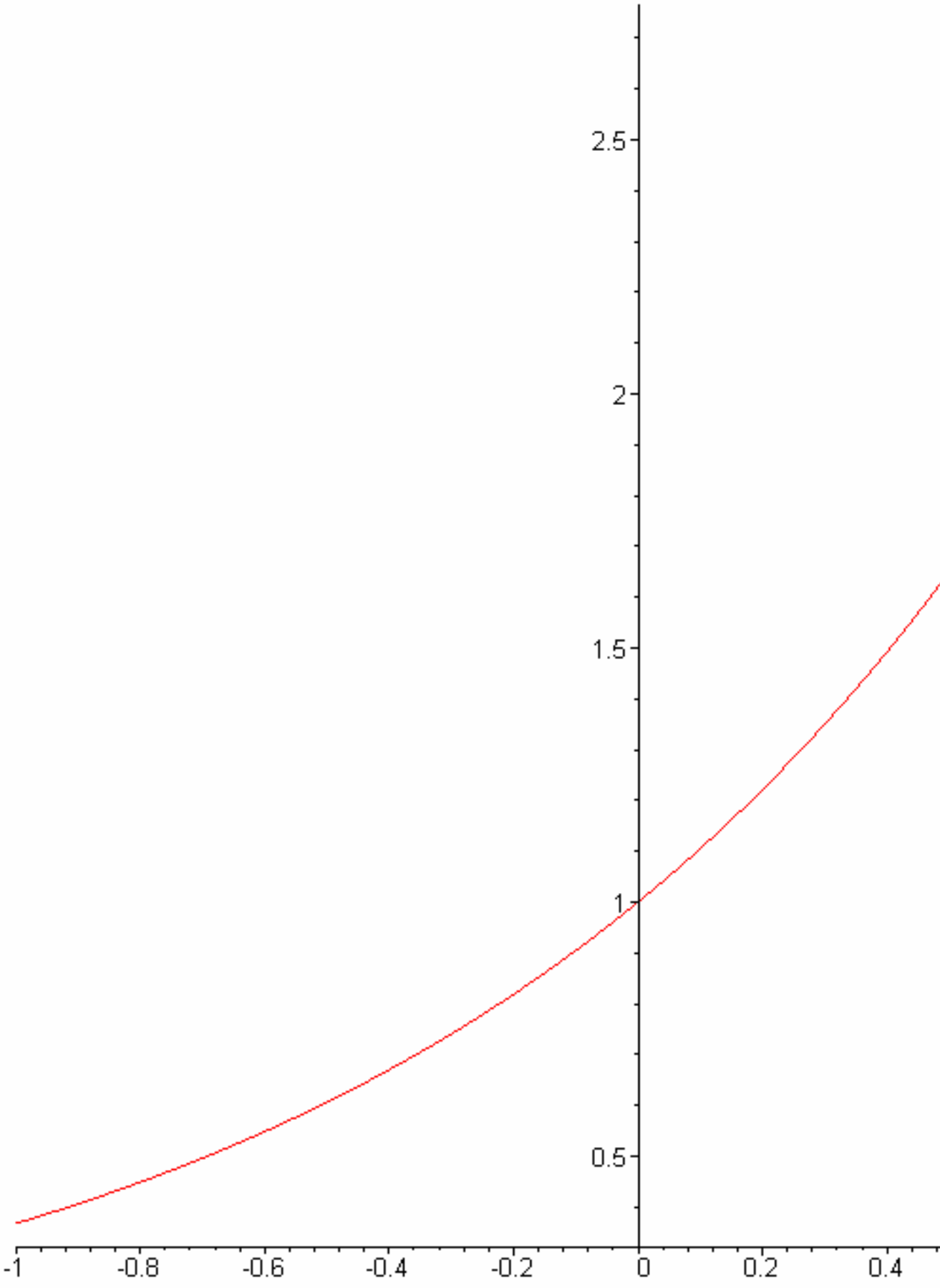
```
> plot([1/(1-x),1+x+x^2+x^3],x=-1..1,y=0..10);
```


10
8
6
y
4
2
0
-1
-0.8
-0.6
-0.4
-0.2
0.2
0.4

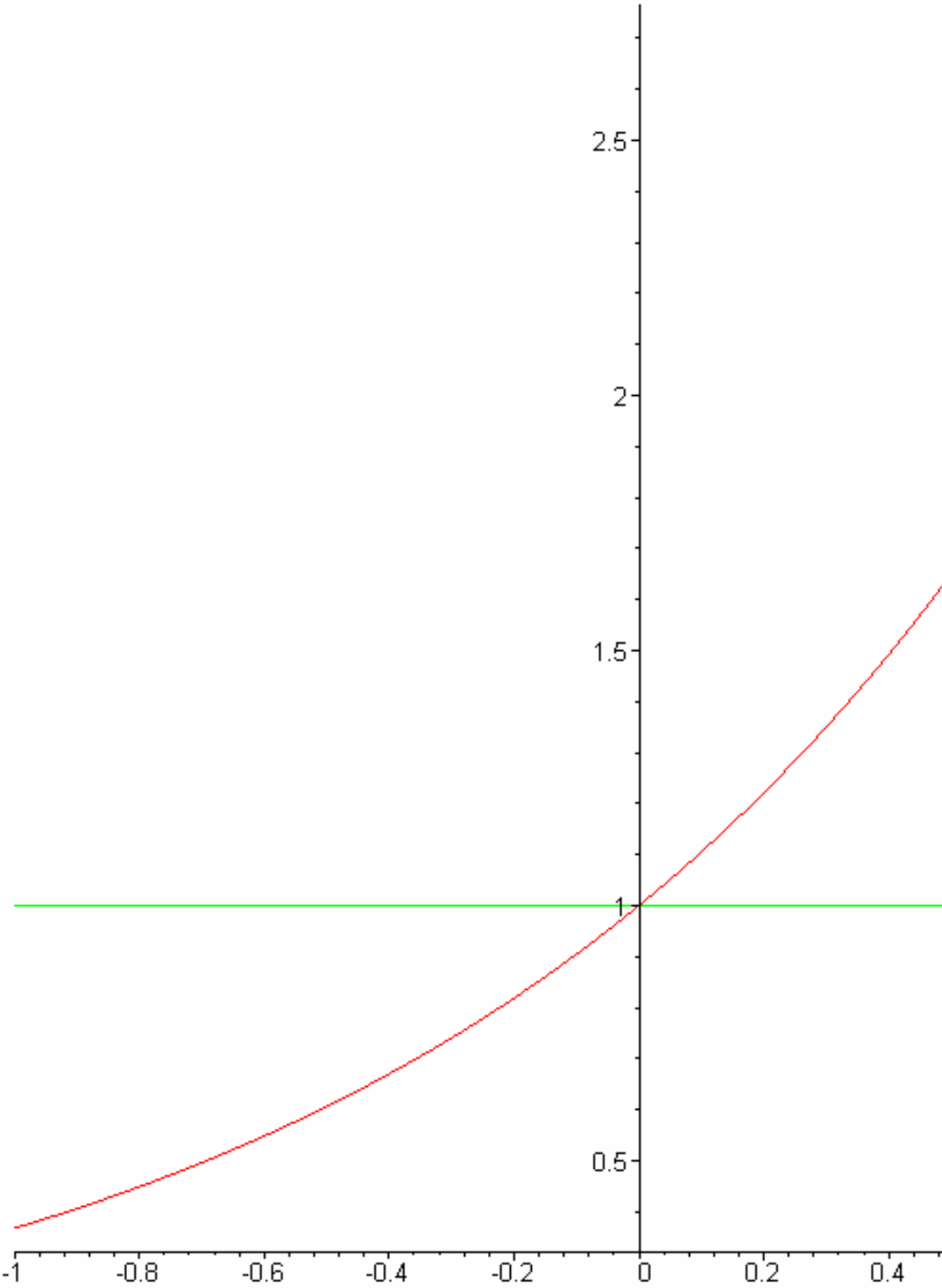
```
> f:=x->exp(x);
```

$$f := x \to \mathbf{e}^{x}$$

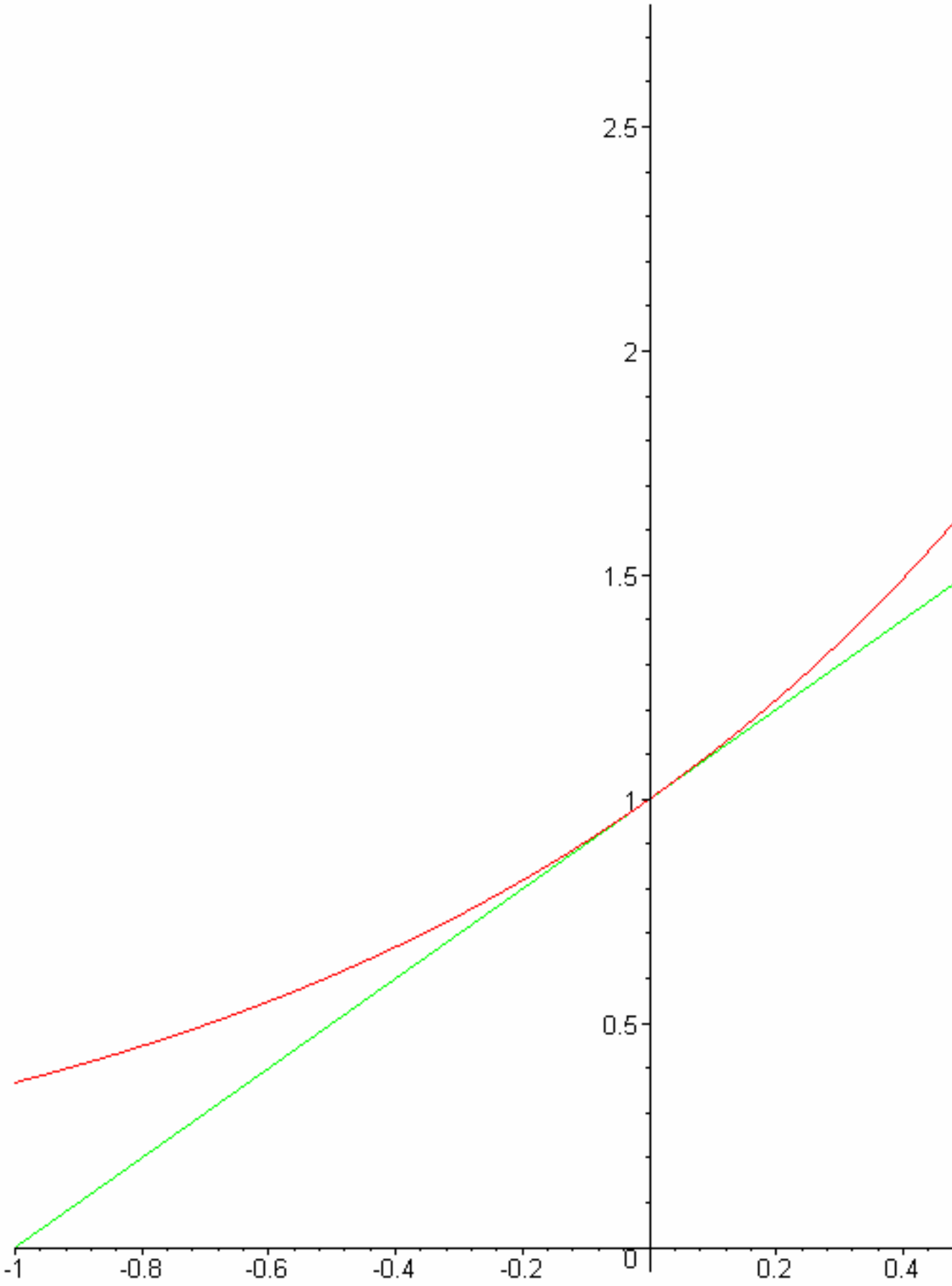
```
> plot(f(x),x=-1..1);
```


2.5
2
1.5
1
0.5
-1
-0.8
-0.6
-0.4
-0.2
0
0.2
0.4

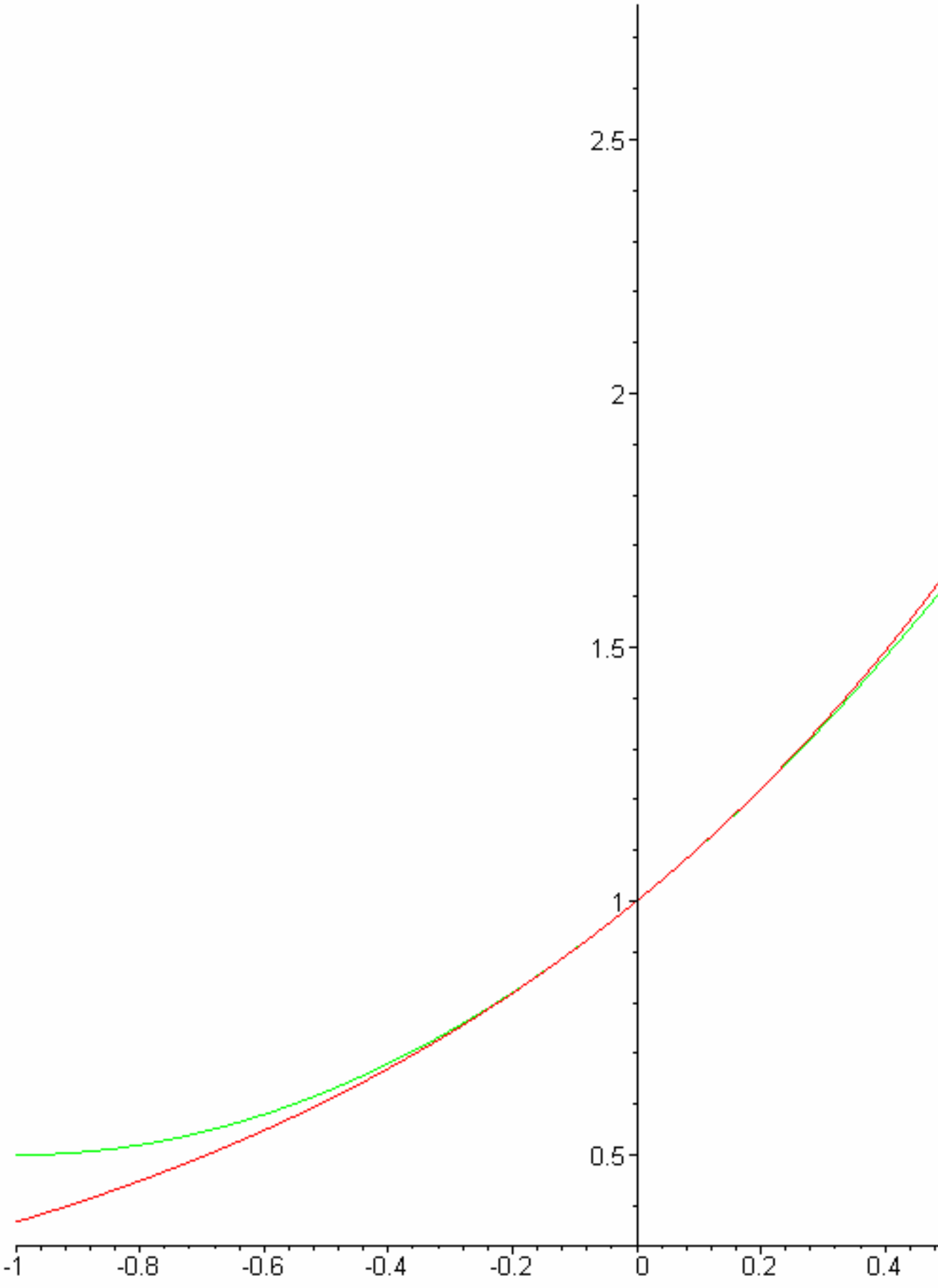
```
> plot([f(x),1],x=-1..1);
```


2.5
2
1.5
1
0.5
-1
-0.8
-0.6
-0.4
-0.2
0
0.2
0.4

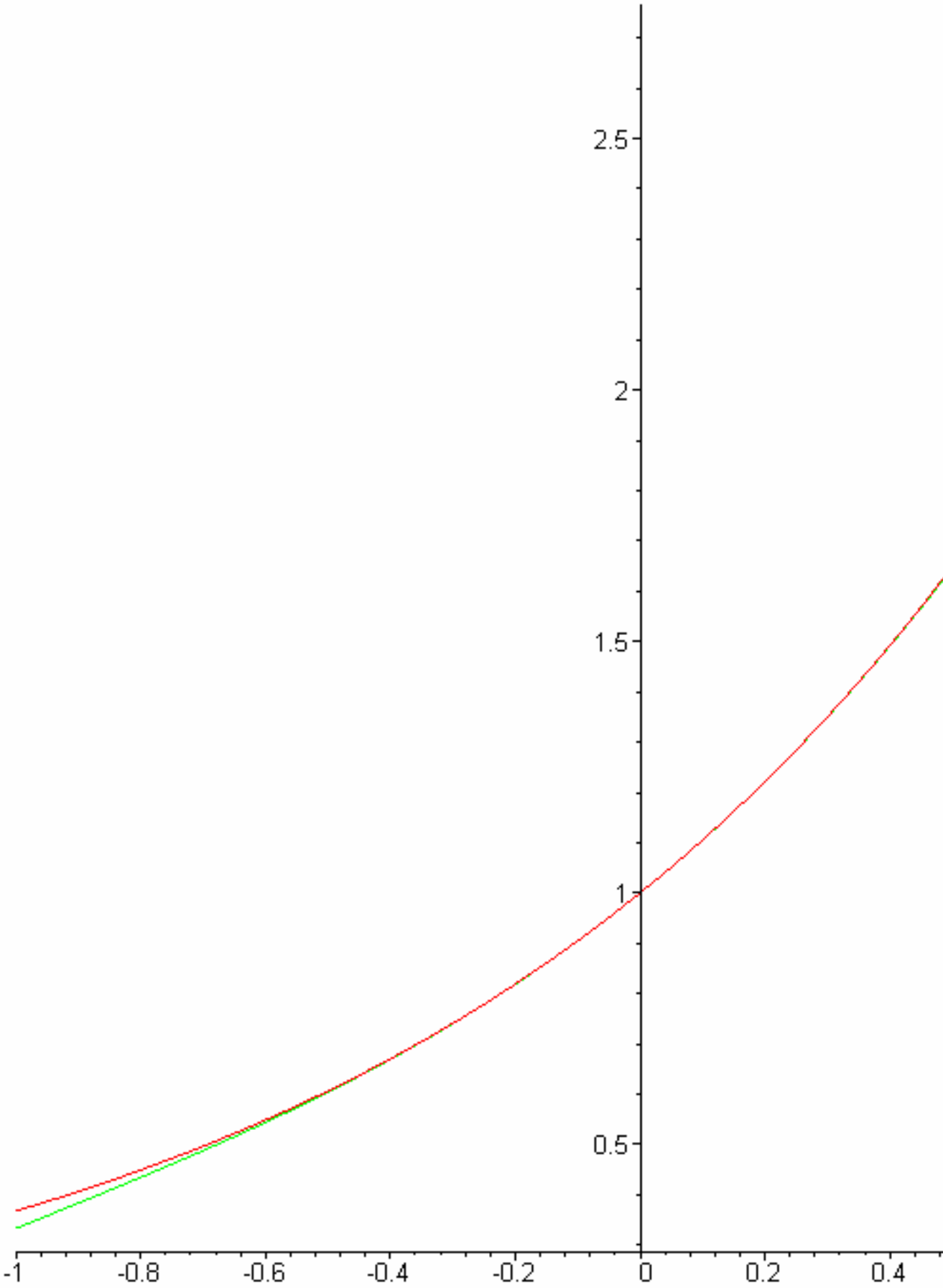
```
> plot([f(x),1+x],x=-1..1);
```


2.5
2
1.5
1
0.5
0
-1
-0.8
-0.6
-0.4
-0.2
0.2
0.4

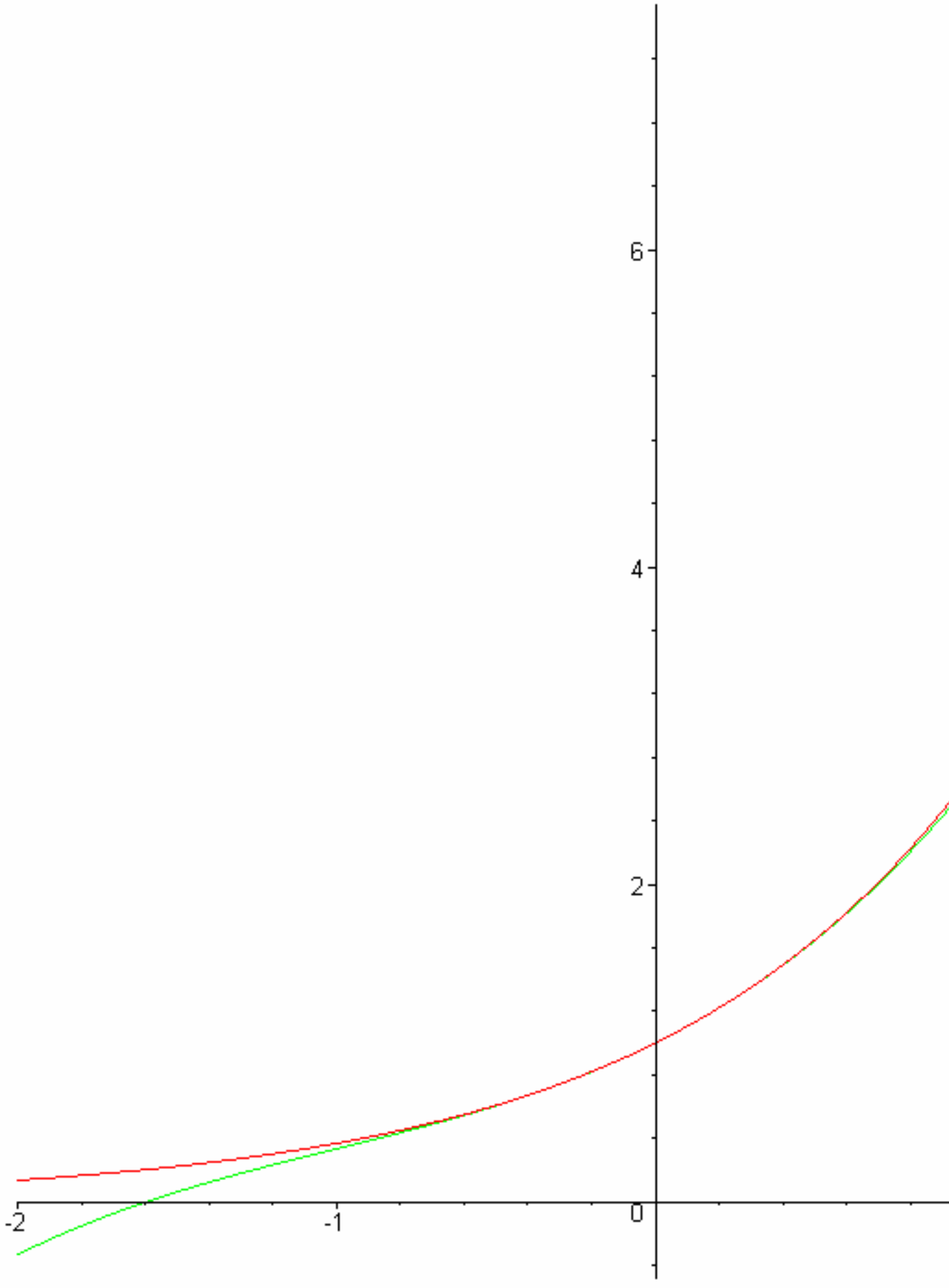
```
> plot([f(x),1+x+(1/2)*x^2],x=-1..1);
```


2.5
2
1.5
1
0.5
-1
-0.8
-0.6
-0.4
-0.2
0
0.2
0.4

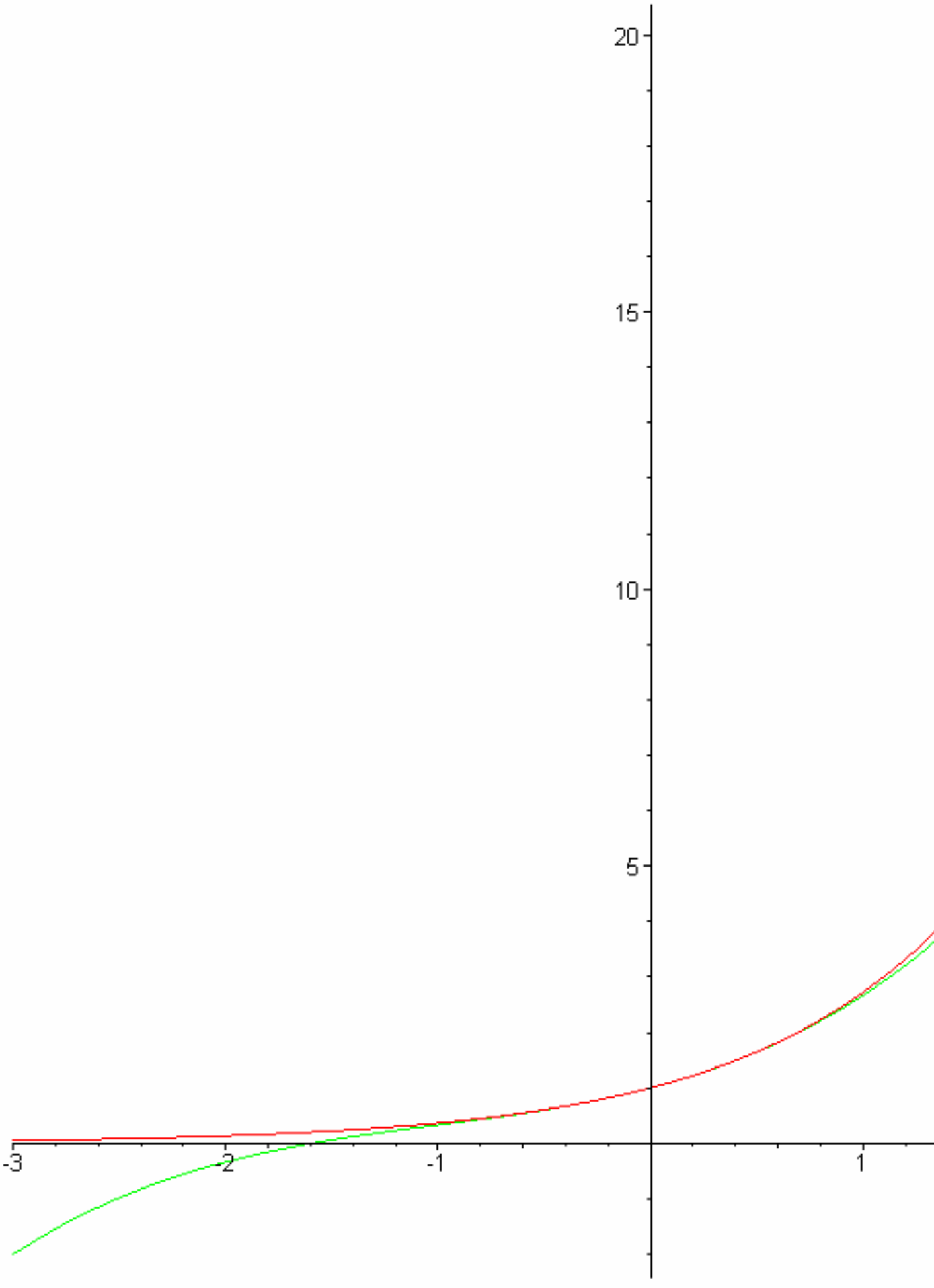
```
> plot([f(x),1+x+(1/2)*x^2+(1/6)*x^3],x=-1..1);
```


2.5
2
1.5
1
0.5
-1
-0.8
-0.6
-0.4
-0.2
0
0.2
0.4

```
> plot([f(x),1+x+(1/2)*x^2+(1/6)*x^3],x=-2..2);
```


6
4
2
0
-2
-1

```
> plot([f(x),1+x+(1/2)*x^2+(1/6)*x^3],x=-3..3);
```


20
15
10
5
-3
-2
-1
1

>