

```
> m := 4.0;
```

$$m := 4.0$$

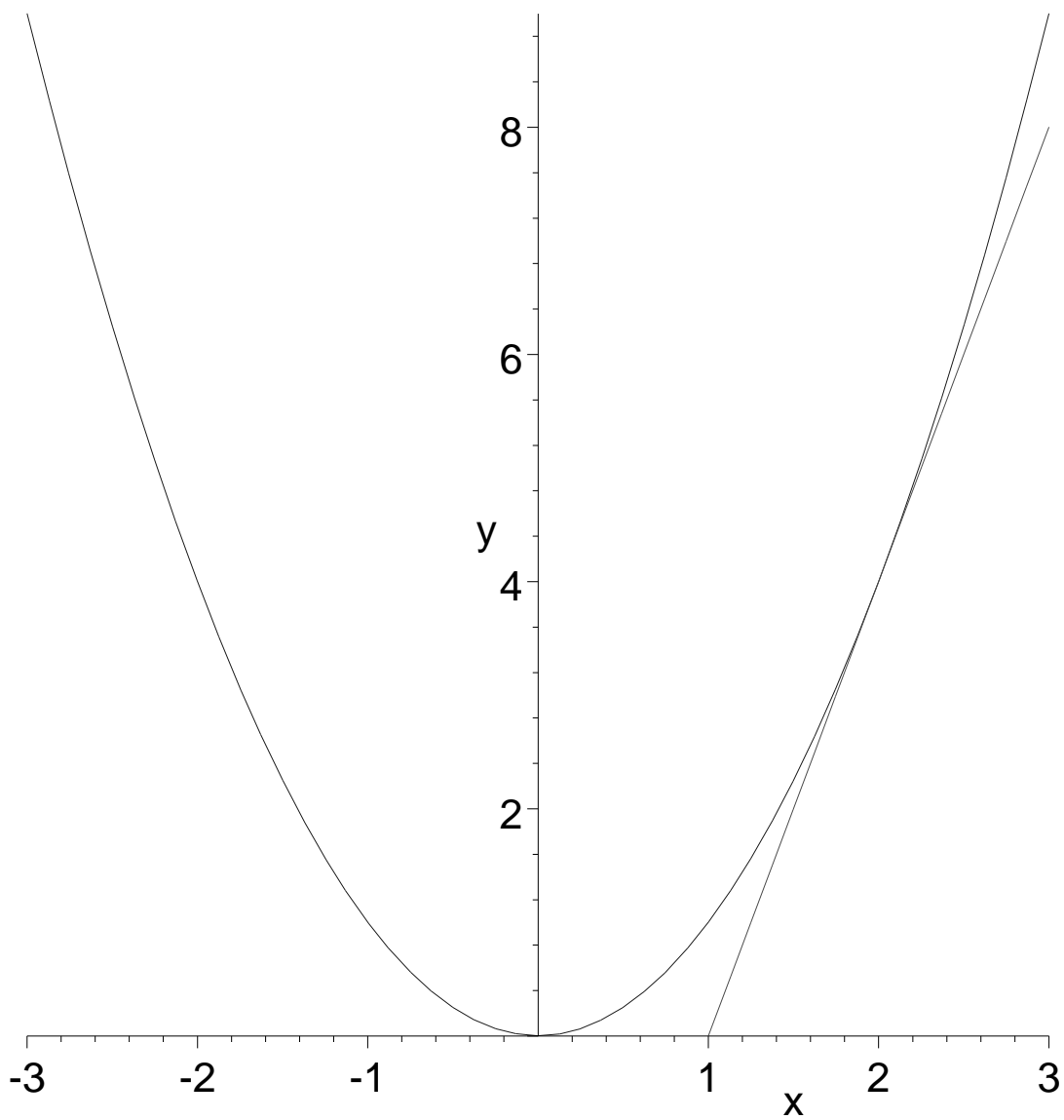
```
> f := x -> x^2;
```

$$f := x \rightarrow x^2$$

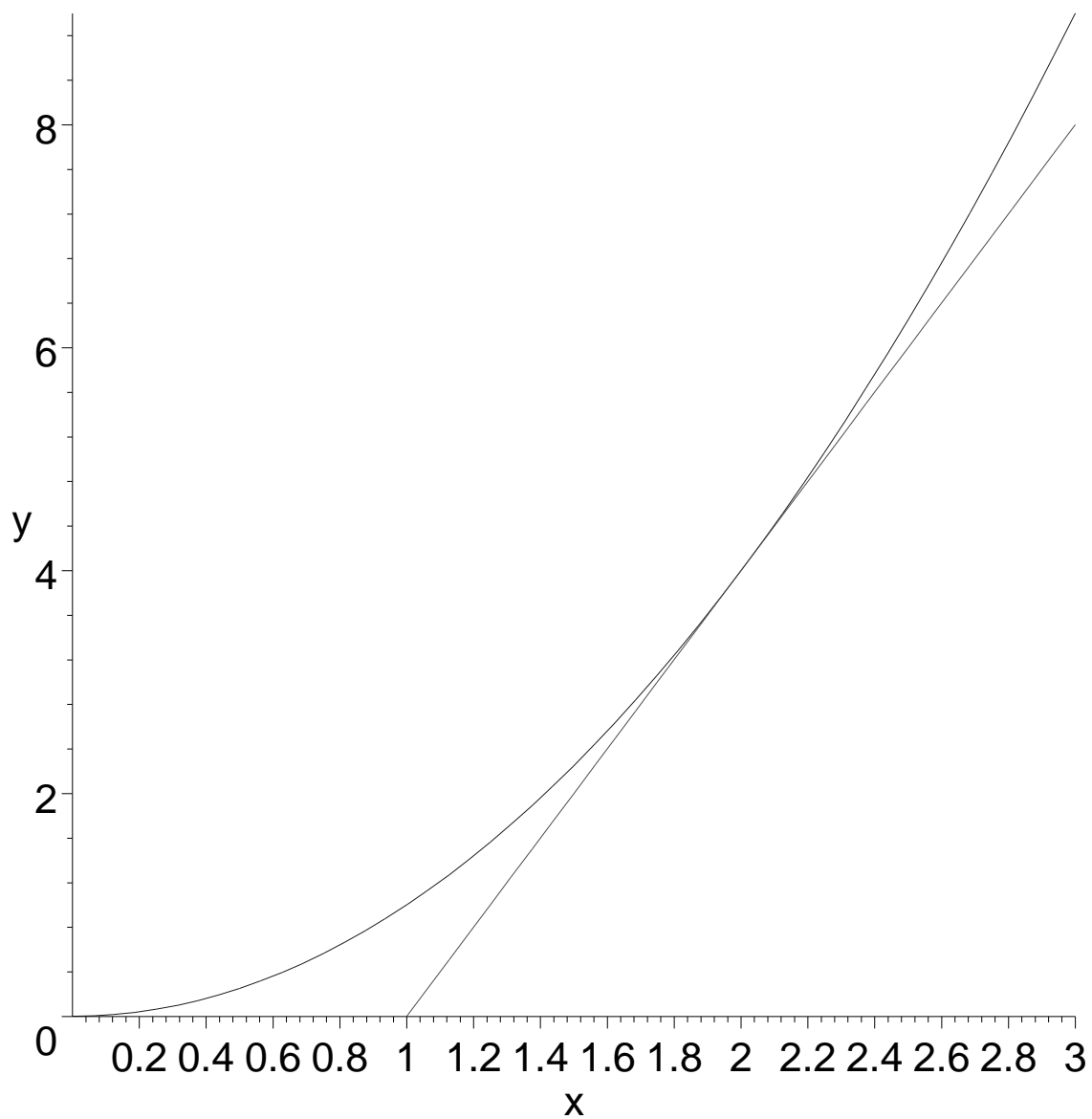
```
> t := x -> m*(x-2)+4;
```

$$t := x \rightarrow m(x-2) + 4$$

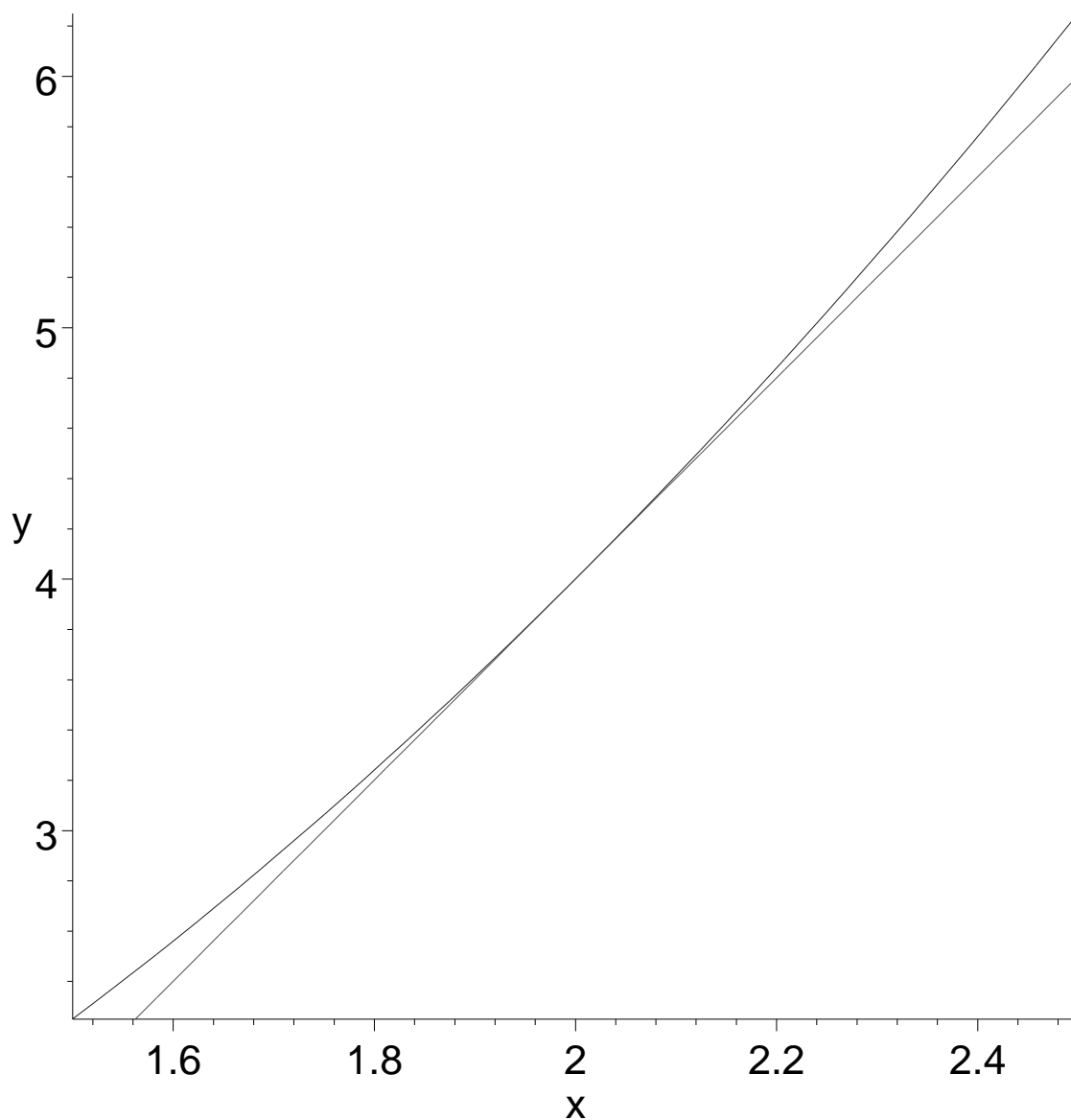
```
> plot( {f(x), t(x)}, x=-3..3, y=0..9,
color=[red,blue] );
```



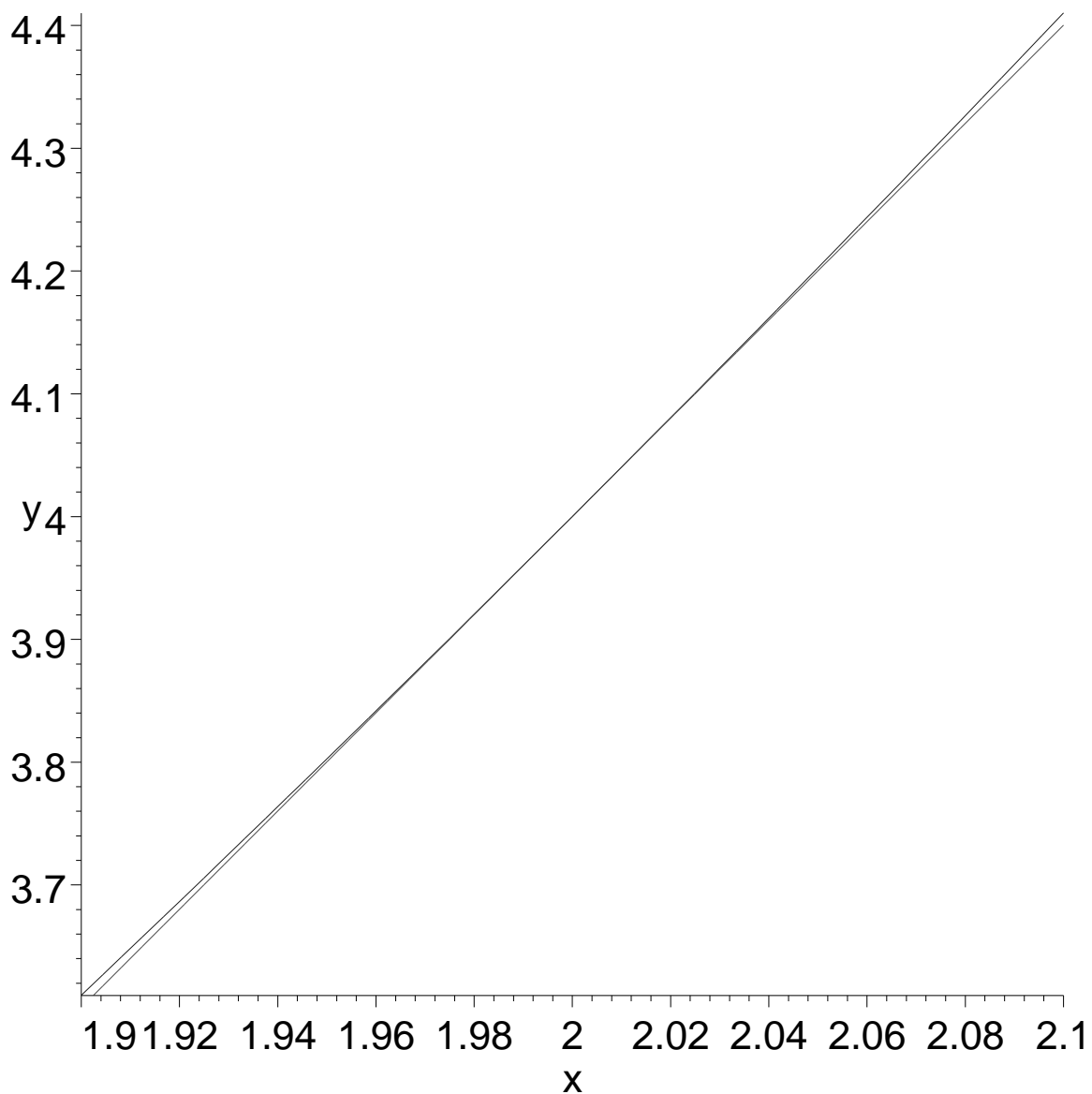
```
> plot( {f(x),t(x)} ,x=0..3,y=0..9,c  
olor=[red,blue] );
```



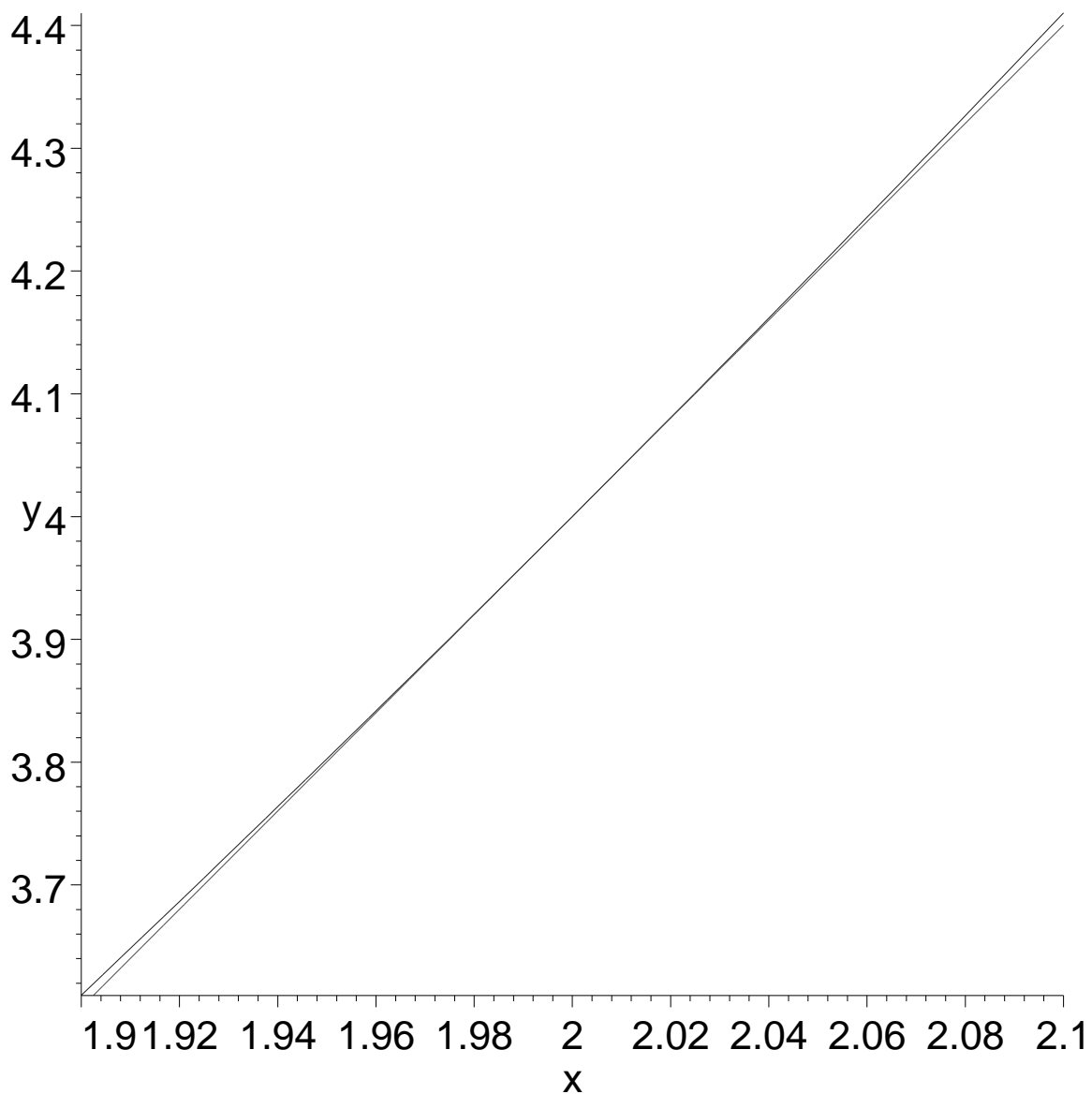
```
> plot( {f(x), t(x)} , x=1.5..2.5, y=(1.5)^2..(2.5)^2, color=[red,blue])  
;
```



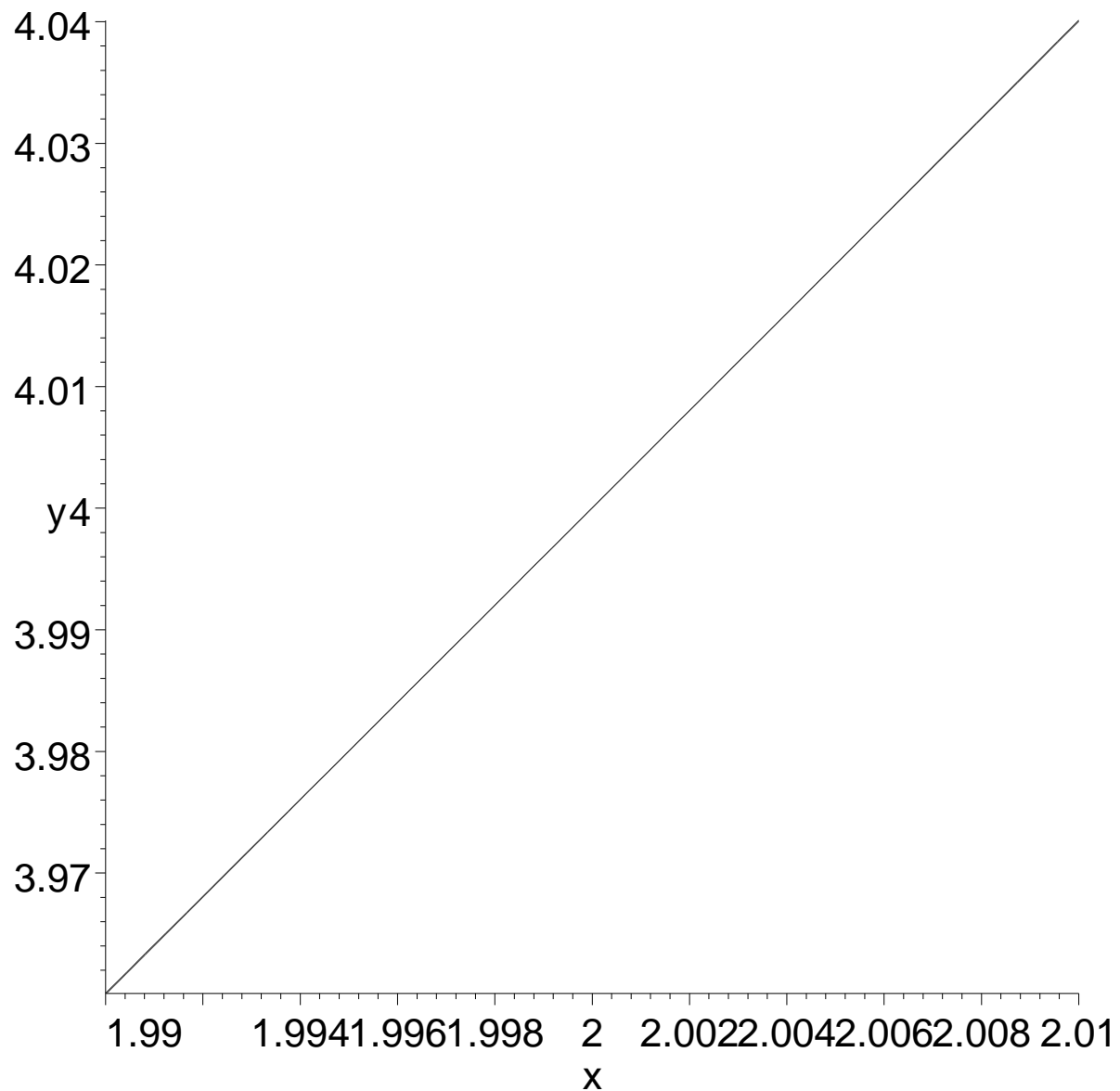
```
> plot( {f(x), t(x)} , x=1.9..2.1, y=(1.9)^2..(2.1)^2, color=[red,blue] )  
;
```



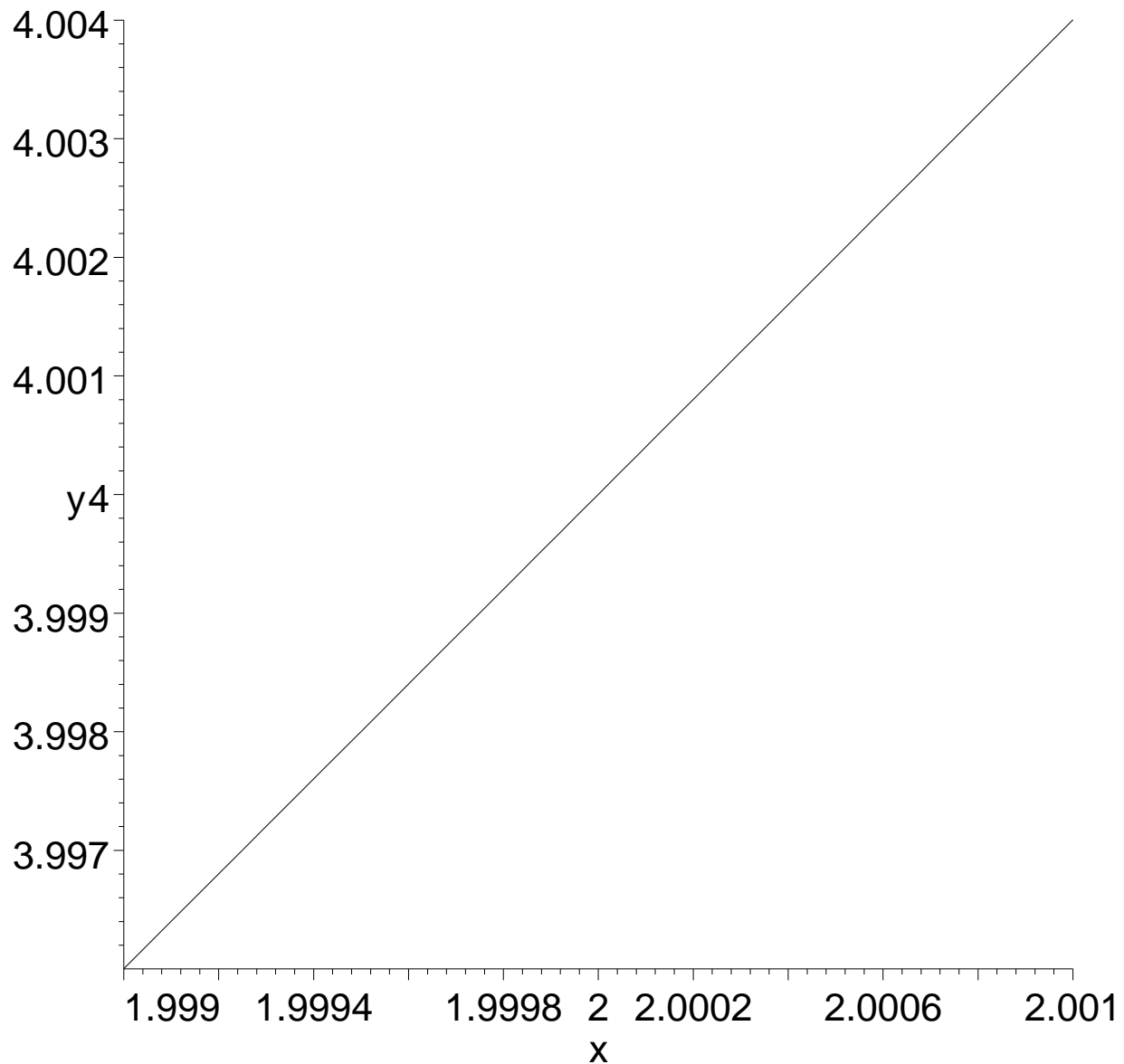
```
> plot( {f(x), t(x)} , x=1.9..2.1, y=(1.9)^2..(2.1)^2, color=[red,blue] )  
;
```



```
> plot( {f(x), t(x)} , x=1.99..2.01, y=
(1.99)^2..(2.01)^2, color=[red,bl
ue] );
```



```
> plot( {f(x), t(x)} , x=1.999..2.001,  
        y=(1.999)^2..(2.001)^2, color=[red,blue]);  
>
```



```
> # Observe how close well t(x)
approximates f(x) when x is near
2.
```

```
> f(2.01);t(2.01);
```

```
4.0401
```

```

4.040
> f(1.99);t(1.99);
3.9601
3.960
> f(2.1);t(2.1);
4.41
4.40
> f(1.9);t(1.9);
3.61
3.60
> # Note that as we move far
enough away from 2 the
approximation starts to
'degrade'
> f(2.5);t(2.5);
6.25
6.00
> f(1.5);t(1.5);
2.25

```

```
| 2.00
| > f(3);t(3);
| 9
| 8.0
| > f(1);t(1);
| 1
| 0
| >
```