hr19ut A3Q23

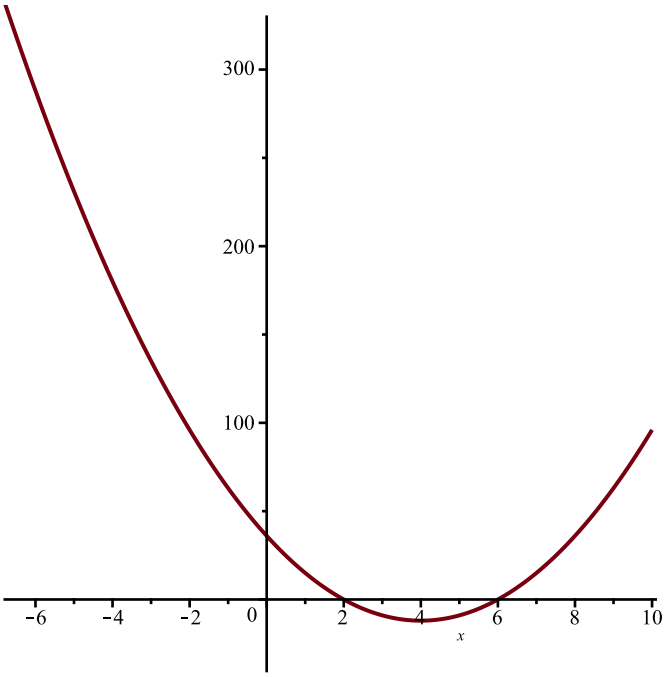
```
> f:=x->x^3-12*x^2+36*x-3;
```

$$f := x \mapsto x^3 - 12 \cdot x^2 + 36 \cdot x - 3 \quad \textbf{(1)}$$

```
> f1:=diff(f(x),x);
```

$$f1 := 3\,x^2 - 24\,x + 36 \quad \textbf{(2)}$$

```
> plot(f1);
```




```
> solve(f1>0,x);
```

$$(-\infty, 2), (6, \infty) \quad \textbf{(3)}$$

```
> solve(f1=0,x);
```

$$6, 2 \quad \textbf{(4)}$$

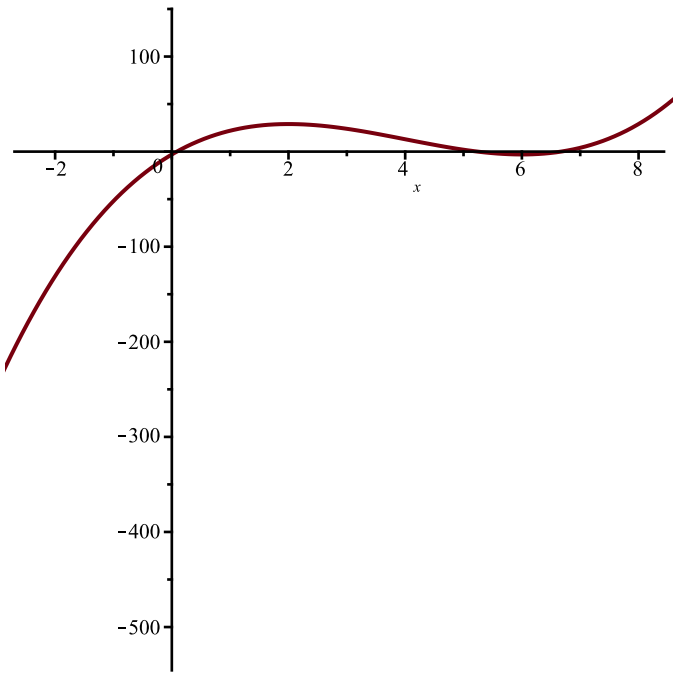
```
> solve(f1<0,x);
```

$$(2, 6) \quad \textbf{(5)}$$

```
> f(2);f(6);
```

$$29$$
$$-3 \quad \textbf{(6)}$$

```
> plot(f(x),x);
```


100
-2
0
2
4
6
8
x
-100
-200
-300
-400
-500