





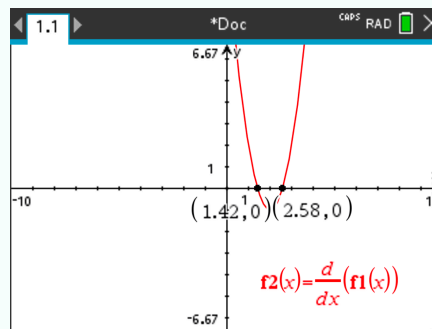
## 5.6 Local minimum and local maximum of a function

### 5.6.1 Find all turning points of a graph using derivatives

Suppose you want to find graphically all the turning points of the function

$$f(x) = x^3 - 6x^2 + 11x - 6$$

- ① Create a new document and select Add Graphs. Enter the function into 'f1(x)'
- ② Then, enter 'f2(x) =  $\frac{df1(x)}{dx}$ ', by pressing  and  to graph the derivative of the function . Select only 'f2(x)' to show only the derivative.
- ③ Find the zeros of the derivative. To do so press  and select Analyze Graph > Zero. Select lower and upper bounds between the crossing of x-axis. Press  . Do it again for the second zero.



The results should be  $x = 1.42$  and  $x = 2.58$  (rounded).