

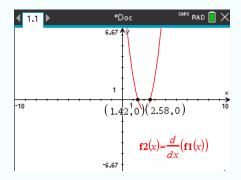
5.6 Local minimum and local maximum of a function

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 $f_2(x) = \frac{df_1(x)}{dx}$ by pressing and do to graph the derivative of the function. Select only $f_2(x)$ 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 enter . Do it again for the second zero.



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