

## 5.4 Tangents and normals to a curve

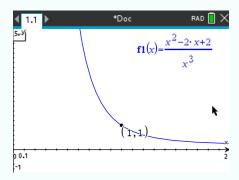
## 5.4.1 Tangent to a curve at a point

Consider the function

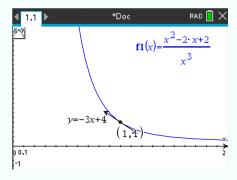
$$f(x) = \frac{x^2 - 2x + 2}{x^3}$$

Suppose you want to graph and have the equation of the tangent to the graph of f at x = 1.

- ① Create a new document and select Add Graphs. Enter the function.
- ② Choose an appropriate window. Here we chose Xmin=0, Xmax=2, Ymin=-1 and Ymax=5.
- ③ Press , select Geometry > Points & Lines > Point on Graph. Put the point at x=1 on the graph.



(4) Then press , select Geometry > Points & Lines > Tangent and click on the point created before. The equation of the tangent is also displayed:



Thus, we can read at the bottom that the equation of the tangent to the curve at x = 1 is y = -3x + 4 (rounded).