5.4 Tangents and normals to a curve

5.4.1 Tangent to a curve at a point

Consider the function

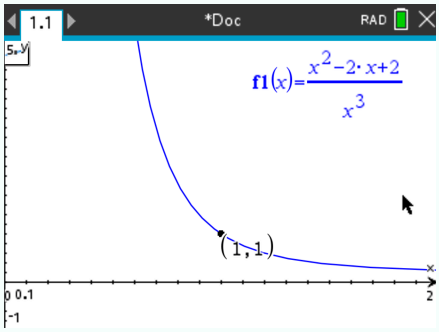
$$f(x) = \frac{x^2 - 2x + 2}{x^3}$$

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

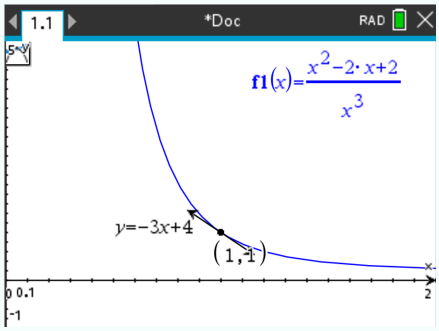
① Create a new document and select Add Graphs. Enter the function.

② Choose an appropriate window. Here we chose **Xmin=0**, **Xmax=2**, **Ymin=-1** and **Ymax=5**.

③ Press menu, select Geometry > Points & Lines > Point on Graph. Put the point at x=1 on the graph.



④ Then press menu, 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).