Practice – 2

Once you feel confident using implicit differentiation to find equations of tangent and normal lines, complete problems 1 to 2. Check your answers by going to the Solutions tab in Moodle.

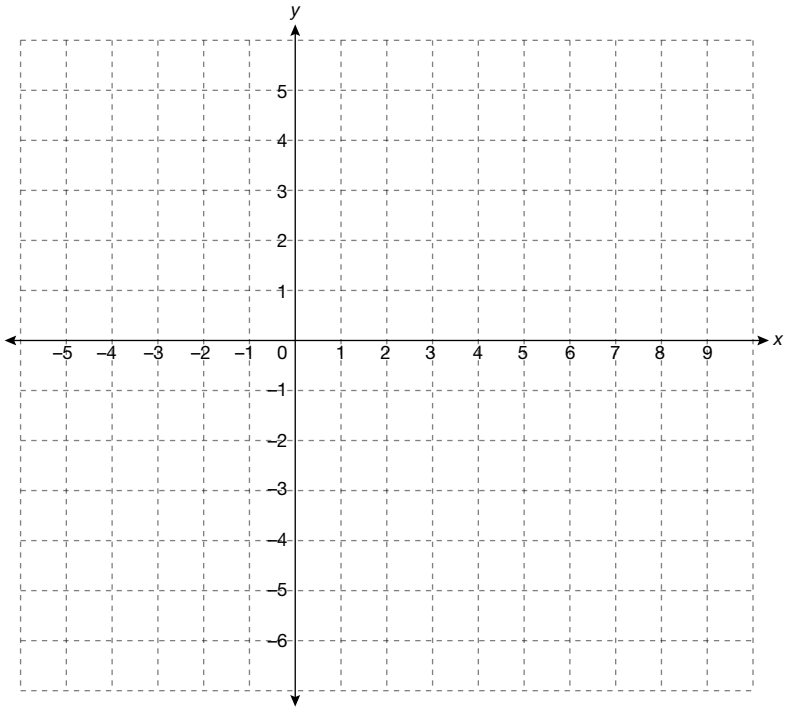
Instructions: Answer each of the following practice questions on a separate piece of paper. Step by step solutions are provided under the Solutions tab. You will learn the material more thoroughly if you complete the questions before checking the answers.

1. Given the function $y = x^2 - 3$,

   a. find the point on the curve where the tangent line is parallel to the line $16x - 4y - 3 = 0$,

   b. find the equation of the tangent line, and

   c. sketch a graph of the curve and the tangent line.



2. Find the equations of the tangent lines to the circle $x^2 + y^2 = 25$ at the points $(3, 4)$ and $(-3, 4)$. At what point do the two tangent lines intersect? A graph of the relation and the tangent lines are shown.