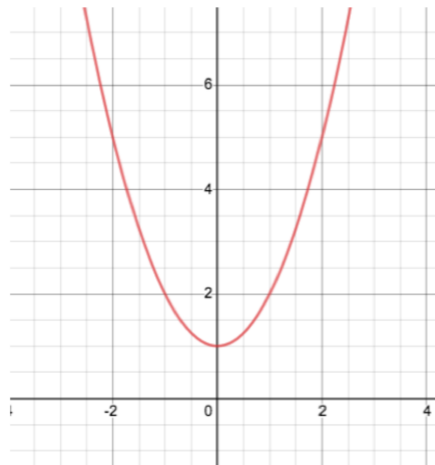


## BC Calculus – Tangent Line Challenge

Name: \_\_\_\_\_

Given  $f(x) = x^2 + 1$



1. Write the equation of the tangent line to  $f(x)$  at  $x = \sqrt{3}$ .
2. Sketch and find the equation of either of the lines that pass through  $(-1, -3)$  and are also tangent to  $f(x)$ . (The answers are not pretty).
3. Find the slopes of the lines tangent to both  $f(x)$  and  $g(x) = -(x+1)^2$