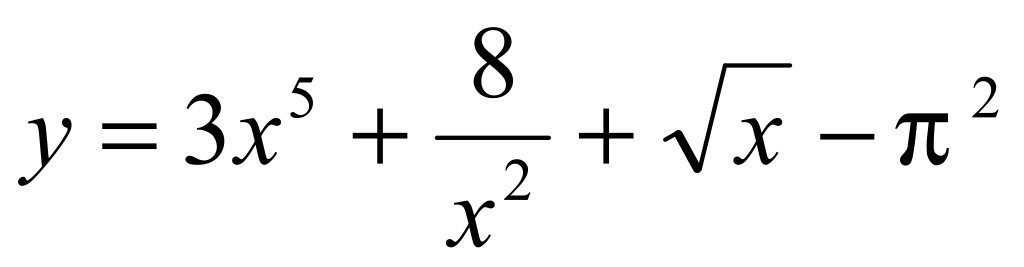
**QUIZ 3.1 – 3.3**

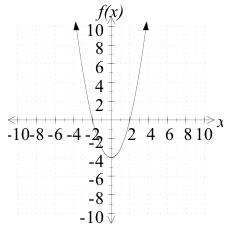
1. Find the derivative of each of the following. Be sure to simplify when possible. [6]  
     
   a) 

b)

c) 

1. Prove that the the function *f* has a zero on the interval [1; 10] without determining it. [2]

1. Let [2]  
   a) Determine for .  
     
     
     
   b) Determine for .  
     
     
     
   c) Is *f* differentiable at 1? Explain. *Be careful, there is a trap…*

1. Use the definition of the derivative to determine the derivative of . [2]
2. Use the alternate definition of the derivative to determine the derivative of . [2]
3. Graph the derivative of the following function on the second grid: [1]  
     
     
4. Find the equation of the tangent line to at . [2]