**QUIZ 3.1 – 3.6**

1. Find the derivative of each of the following. Be sure to simplify when possible. [12]
a) 

b) 

c) $y=\left(\csc(x)+1\right)\tan(x)$

d) $y = 4x^{6}(x^{2} + 3x + 5)^{5}$
e)

f) 
2. Find the equation of the tangent line to at the point where *x* =. [3]
3. A particle’s position along a number line is given by *s*(*t*) = 4*t*2 – 16*t*, for *t* ≥ 0 [5]
4. Find the particle’s velocity and acceleration functions.
5. When does the particle change direction?
6. Find the total distance travelled by the particle in the first 3 seconds.