Math 273 | Quiz 5 | Name: _____

7 Oct 2016 | Show appropriate work. | Point Values in $\boxed{\text{boxes}}$.

1. $\boxed{4}$ Show the limit does not exist. [HINT: Consider two paths, lines will do.]

$$\lim_{(x,y)\to(0,0)} \frac{xy}{x^2+y^2}$$

2. $\boxed{2}$ Compute f_{xyy} for $f(x,y) = x^3y^2 + y\sin\left(\frac{x+x^3}{1+x^4}\right)$.

3. $\boxed{4}$ Find an equation for the tangent plane to $f(x,y) = xe^x + y^2$ at $(0,1)$.