Math 126 Quiz 3

NAME ________________________________

1. Compute the Taylor series for $f(x) = e^{2x}$ centered at zero without using any formula for the power series expansion of $e^x$.

2. Find the distance between the points $P = (-1, 3, 0)$ and $Q = (4, -4, -2)$. 
Consider the sphere given by the equation $x^2 + 4x + y^2 + z^2 - 6z = 12$.

(a) Find the center and radius.

(b) Find the center and radius of the intersection of the sphere with the $yz$-plane.