HW Quiz 9.3B Name_____

1a) Find the Taylor Polynomial of order 3 generated by f(x) = cos x at $x = \frac{\pi}{3}$.

b) Use the Remainder Estimation Theorem to determine $|f(1.01) - P_3(1.01)| \le R$ where R is the error bound

2. The polynomial $1 + 7x + 21x^2$ is used to approximate $f(x) = (1 + x)^5$ on the interval $-.01 \le x \le .01$

a) Use the Lagrange Error Bound to find $|f(x) - P_2(x)| \le R$ where R is the error bound

3. a. Write the first 2 terms for $f(x) = \sin(x^2)$ centered at x = 0.
b. Then determine $|f(.1) - P_6(.1)| \le R$ where R is the error bound