Math 371
Quiz 2, February 18, 2014 Name: _____

1. Let $f(x) = x^3$.

   (a) (3 points) Find the second Taylor polynomial $P_2(x)$ of f with center $a = 1$.

   (b) (3 points) Use Taylor's theorem to bound the error $|f(0.5) - P_2(0.5)|$. That is, bound $|R_2(0.5)|$.

   (c) (2 points) Compute the true error $|f(0.5) - P_2(0.5)|$.

   (d) (2 points) What is $P_3(x)$ and why? You answer here should be very short!