

Math 321-172

Quiz 3

Name:.....ID#:.....Sec:.....Ser:.....

Q.1: Use Forward, backward and Central difference formula to compute $f'(1)$ for $f(x) = xe^x$ using $h = 0.1$, Also compute actual error and error bound for each case on the interval $[1.9, 2.1]$.

Q.2: Approximate $\int_0^2 \sqrt{x^2 + 1} dx$ using composite Trapezoidal rule and composite Simpson's rule taking $n = 4$.

Q.3: Use Bisection method to find the root x_3 for $f(x) = x^3 - 7x^2 + 14x - 6$ on the interval $[0, 1]$. Write value of $f(x_3)$.