

Math 350 Probability – Quiz 4 – Spring 2007

Name: _____

Instructions: **Answer each question completely and show all work.**

1. Suppose 48% of the people in a town agree with proposition. A survey is taken where 801 are asked if they agree with the proposition. What is the probability that more than half of the people in the sample will agree with the proposition.

2. Let X be a continuous random variable with pdf given by:

$$f_X(x) = \begin{cases} cx^2 & \text{if } 1 < x < 2 \\ 0 & \text{otherwise} \end{cases}$$

(a) What is the value of c ?

(b) Find $E(X)$.

(c) Find $\text{Var}(X)$.

(d) Find the cumulative distribution function of X .