Department of Mathematics and Statistics
Semester 112

STAT319 Quiz 4 Monday April 9, 2012

Name: _____ ID #: _____

1) The error X on a class of instrument readings measured in milligrams has the density function

$$f(x)=\begin{cases}\dfrac{3\left(1-x^2\right)}{4} & if\ -1\le x\le 1\\ 0 & otherwise\end{cases}$$

a) What is the probability that the error is negative?

2) If Z is a standard normal random variable, find

a) P(Z < 1.27)

b) P(Z >- 0.35)

c) P(|Z| > 2.15)

d) P(- 0.46 < Z < 1.80)

3) The mean CPU time for a class of programs on a certain mainframe computer is a normal random variable with mean 2.5 minutes and standard deviation 0.35 minutes.
   a) What percentage of programs exceed 3.2 minutes of CPU time?
   b) What CPU time is exceeded by 10% of all programs?