

Math 10A with Professor Stankova

Quiz 11; Wednesday, 11/8/2017

Section #106; Time: 10 AM

GSI name: Roy Zhao

Name: _____

Circle True or False or leave blank. (1 point for correct answer, -1 for incorrect answer, 0 if left blank)

1. True False The median of a continuous distribution may not exist.
2. True False In order to determine the median of the distribution $f(x) = e^{-x^2}/\sqrt{\pi}$, we must calculate the CDF and set it equal to $1/2$.

Show your work and justify your answers. Please circle or box your final answer.

3. (10 points) (a) (2 points) Suppose that $f(x) = \begin{cases} -Cx^{-3} & x \leq -1 \\ 0 & x > -1 \end{cases}$ for some constant C . If f is a PDF, describe how you would find C (you don't have to solve).

(b) (2 points) If you solve, you get $C = 2$. Find the CDF of f from above.

(c) (3 points) Find the median of this distribution.

(d) (3 points) Find the mean of this distribution.