

Math 10B with Professor Stankova

Quiz 9; Tuesday, 4/2/2019

Section #203; Time: 11 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 CDF is the derivative of the PDF.
2. True False Suppose that $f(x) = -1$ for $-1 \leq x < 0$ and $f(x) = 1$ for $0 \leq x \leq 2$ and 0 everywhere else. Then f is a PDF.

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

3. (10 points) (a) (2 points) Suppose that $f(x) = Cx^3$ for $0 \leq x \leq 2$ and $f(x) = 0$ for all other x for some constant C . If f is a PDF, then find C .

(b) (4 points) Find the CDF of f from above. (Hint: the CDF will be piecewise)

(c) (4 points) Find the mean and median of the PDF f from above.