

Math 10B with Professor Stankova

Quiz 6; Tuesday, 2/27/2018

Section #203; Time: 9:30 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 PMF function f goes from subsets of \mathbb{R} to $[0, 1]$.
2. True False The PMF function f is defined for all of \mathbb{R} but is only nonzero on the range of X .

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

3. (10 points) (a) (3 points) I am conducting a survey on teenagers under 18. Suppose that there are an equal number of people aged 13 through 18, which is the population I am surveying. Let X be the age of the person I interview. Find and draw the PMF associated to X .

- (b) (4 points) Suppose that I may interview the same person twice. I interview 100 people total. What is the probability that I interview 30 or 31 middle schoolers (aged 13, 14)?

- (c) (3 points) What is the probability that I have to interview 8 people until I interview a high schooler (aged 15 – 18, the high schooler is the 8th person I interview)?