

AP STATISTICS
(2.1 Review Problems)

USE THE FOLLOWING INFORMATION FOR PROBLEMS 1-6:
Test scores for a class come from a normal distribution with $\mu = 80$, $\sigma = 5$

1. What arguments would you enter into the calculator to find the percent of scores below 92?
 - (A) `normalpdf(0,92,80,5)`
 - (B) `normalcdf(0,92,80,5)`
 - (C) `normalpdf(80,5)`
 - (D) `normalcdf(80,5,0,92)`

2. Approximately what percent of students scored above an 88?
 - (A) 5%
 - (B) 95%
 - (C) 2.5%
 - (D) 1%

3. What score would be needed to be at the 84th percentile?
 - (A) 75
 - (B) 70
 - (C) 85
 - (D) 90

4. Approximately what percent of scores were less than 73?
 - (A) 8%
 - (B) 91%
 - (C) 1%
 - (D) 71%

5. Approximately what percent of scores were between 84 and 93?
 - (A) 7%
 - (B) 16%
 - (C) 9%
 - (D) 21%

6. What score would be at the 90th percentile?
 - (A) 13.6
 - (B) 86.4
 - (C) 2
 - (D) 98

7. Jeff scored a 1250 (Math/Verbal) on an SAT with $\mu = 1100$, $\sigma = 100$. Mary scored a 1300 on a different SAT with $\mu = 1150$, $\sigma = 75$. Who performed better relative to their population? Justify the answer.
- (A) Jeff, he scored 150 higher than the average while Mary was only 125 higher
 - (B) Mary, she had the higher score
 - (C) Mary, she was 2 standard deviations above her average while Jeff was 1.5 standard deviations above his average
 - (D) Mary, she scored higher than 97.7% of the scores, while Jeff scored higher than 93.3% of the scores

A DENSITY CURVE CONSISTS OF A STRAIGHT-LINE SEGMENT THAT BEGINS AT THE ORIGIN (0,0) AND HAS A SLOPE 1:

8. Sketch this density curve. What are the coordinates of the right endpoint of the segment? (Note that the right endpoint should be fixed so that the total area under the curve is 1- a requirement for a valid density curve.)
9. Determine the median. (HINT: See page 81)
10. Relative to the median, where would you expect the mean of the distribution to lie? Briefly explain.
11. What percent of the observations lie below 0.5? Above 1.5?