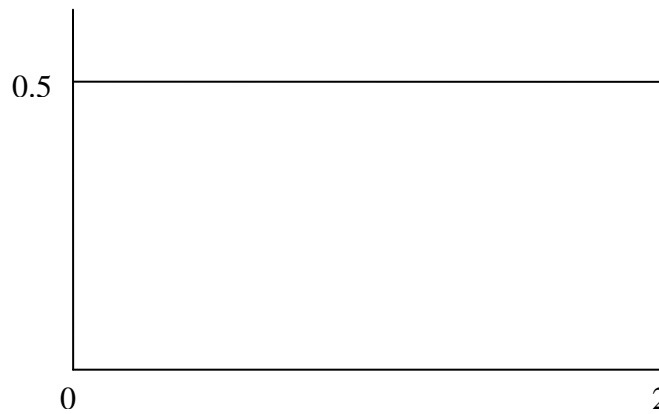


AP Statistics Chapter 2 Practice Test

1. The density curve below is uniform from $(0, 0.5)$ to $(2, 0.5)$.



- a) Verify that the area below this density curve is 1.
- b) What proportion of observations in this density curve are less than 0.75?
- c) What proportion of observations in this density curve are greater than 1.5?
2. In a study of elite distance runners, the mean weight was reported to be 63.1 kilograms (kg), with a standard deviation of 4.8 kg.

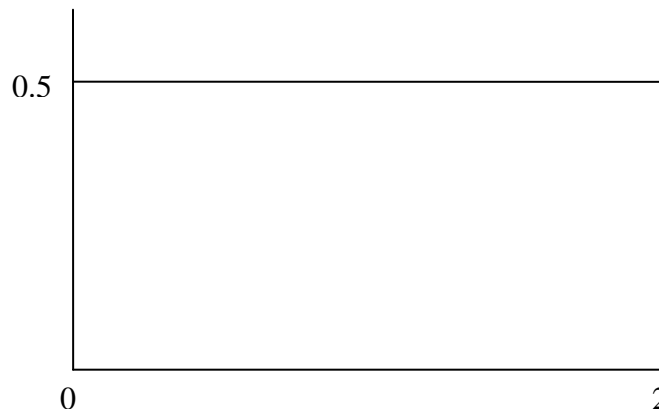
- a) Assuming that the distribution of weights is normal, sketch the density curve of the weight distribution, with the horizontal axis marked in kilograms.

Using your sketch and the 68-95-99.7 rule, answer the following:

- b) What range represents the middle 68% of runner's weights?
- c) What percentage of runner's weights are less than 58.3 kg?
- d) What percentage of runners weighs between 63.1 kg and 72.7 kg?
3. A lunch stand in the business district has a mean daily gross income of \$520 with a standard deviation of \$50. Assume that the daily gross income is normally distributed.
- a) In what proportion of days is the gross income less than \$400?
- b) In what proportion of days is the gross income more than \$600?
- c) In what proportion of days is the gross income between \$400 and \$600?
- d) What does the gross income need to be for a day to be in the top 10% of all days?

AP Statistics Chapter 2 Practice Test - ANSWERS

1. The density curve below is uniform from (0, 0.5) to (2, 0.5).



- a) Verify that the area below this density curve is 1. (**Area = $2 \times 0.5 = 1$**)
- b) What proportion of observations in this density curve are less than 0.75? (**.375**)
- c) What proportion of observations in this density curve are greater than 1.5? (**.25**)
2. In a study of elite distance runners, the mean weight was reported to be 63.1 kilograms (kg), with a standard deviation of 4.8 kg.
- a) Assuming that the distribution of weights is normal, sketch the density curve of the weight distribution, with the horizontal axis marked in kilograms. (**Sketch**)
- Using your sketch and the 68-95-99.7 rule, answer the following:**
- b) What range represents the middle 68% of runner's weights? (**58.3 – 67.9**)
- c) What percentage of runner's weights are less than 58.3 kg? (**16%**)
- d) What percentage of runners weighs between 63.1 kg and 72.7 kg? (**47.5%**)
3. A lunch stand in the business district has a mean daily gross income of \$520 with a standard deviation of \$50. Assume that the daily gross income is normally distributed.
- a) In what proportion of days is the gross income less than \$400? (**.0082**)
- b) In what proportion of days is the gross income more than \$600? (**.0548**)
- c) In what proportion of days is the gross income between \$400 and \$600? (**.9370**)
- d) What does the gross income need to be for a day to be in the top 10% of all days? (**\$584**)