

1. (1 point) The distribution of heights of adult men in the U.S. is approximately normal with mean 69 inches and standard deviation 2.5 inches. Use what you know about a normal distribution and the 68-95-99.7 rule to answer the following.
NOTE: If your answer is a percent, such as 25 percent, enter: "25 PERCENT" (without the quotes). If your answer is in inches, such as 10 inches, enter: "10 INCHES" (without the quotes and with a space between the number and the INCHES). If your answer is an interval, such as 14 to 15 inches, then enter: "14 TO 15 INCHES" (without the quotes). Do not use extra zeros and do not include a decimal point unless your answer is not a whole number. Your answer must be entered in the correct format.

(a) Fill in the blank: About 2.5 percent of all men are shorter than _____.

Answer: _____

(b) About what percent of men are between 69 and 74 inches?
Answer: _____

(c) About what percent of men are between 64 and 66.5 inches?

Answer: _____

Answer(s) submitted:

- 10
- 10 to 15
- 25

(incorrect)

2. (1 point) John took 4 courses last semester: Physics, Calculus, History, and Biology. The means and standard deviations for the final exams, and John's scores are given in the table below. Convert John's scores into z-scores.

Subject	Mean	Stand. dev.	John's score	John's z-score
Physics	60	14	88	_____
Calculus	70	12	76	_____
History	53	16	73	_____
Biology	77	10	84.5	_____

On what exam did John have the highest relative score?

(Enter the subject.) _____

Answer(s) submitted:

- 2
- 0.5
- 1.25
- 0.75
- Physics

(correct)

3. (1 point)

Suppose the scores of students on an exam are normally distributed with a mean of 530 and a standard deviation of 58. Then approximately 95% of the exam scores lie between the integers _____ and _____ such that the mean is halfway between these two integers.

Answer(s) submitted:

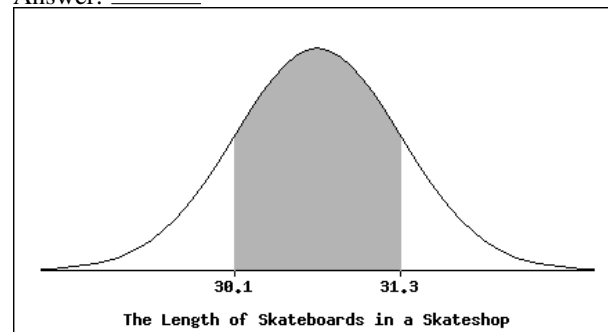
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(incorrect)

4. (1 point)

Length of skateboards in a skateshop are normally distributed with a mean of 30.7 in in and a standard deviation of 0.6 in. The figure below shows the distribution of the length of skateboards in a skateshop. Calculate the shaded area under the curve. **Express your answer in decimal form with at least two decimal place accuracy.**

Answer: _____



Answer(s) submitted:

-

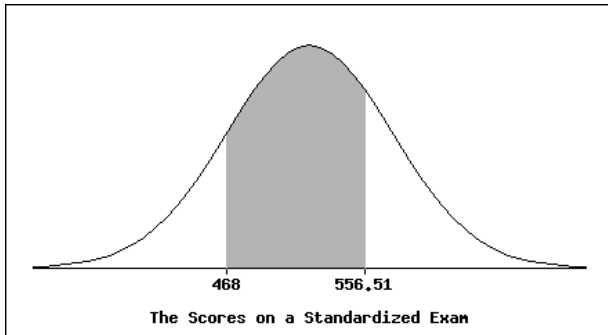
(incorrect)

5. (1 point)

Scores on a standardized exam are normally distributed with a mean of 521 and a standard deviation of 53. The figure below shows the distribution of the scores on a standardized exam. Calculate the shaded area under the curve.

Express your answer in decimal form with at least two decimal place accuracy.

: _____



Answer(s) submitted:

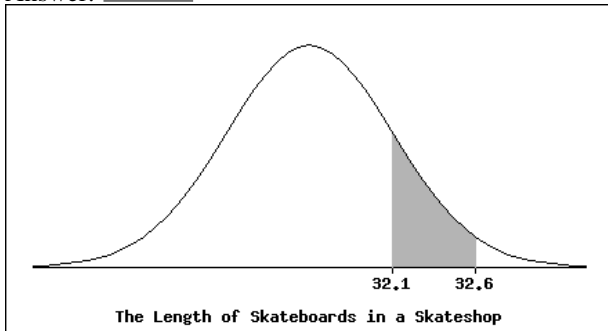
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(incorrect)

6. (1 point)

Length of skateboards in a skateshop are normally distributed with a mean of 31.6 in and a standard deviation of 0.5 in. The figure below shows the distribution of the length of skateboards in a skateshop. Calculate the shaded area under the curve.

Express your answer in decimal form accurate to at least two decimal places.

Answer: _____



Answer(s) submitted:

•
(incorrect)

7. (1 point)

The scores of students on an exam are normally distributed with a mean of 353 and a standard deviation of 64.

(a) What is the first quartile score for this exam?

Answer: _____

(b) What is the third quartile score for this exam?

Answer: _____

Answer(s) submitted:

•
•
(incorrect)

8. (1 point) Suppose the heights of men are normally distributed with mean, $\mu = 69$ inches, and standard deviation, $\sigma = 6$ inches. Suppose admission to a summer basketball camp requires that a camp participant must be in the top 40 % of men's

heights, what is the minimum height that a camp participant can have in order to meet the camp's height admission requirement?

answer: _____inches

Answer(s) submitted:

•
(incorrect)

9. (1 point) Find the z-score such that:

(a) The area under the standard normal curve to its left is 0.8392

z = _____

(b) The area under the standard normal curve to its left is 0.5748

z = _____

(c) The area under the standard normal curve to its right is 0.4858

z = _____

(d) The area under the standard normal curve to its right is 0.3079

z = _____

Answer(s) submitted:

•
•
•
•
(incorrect)

10. (1 point) IQ scores have a mean of 100 and a standard deviation of 15. Pam has an IQ of 115.

(a) What is the difference between Pam's IQ and the mean?

Answer: _____

(b) Convert Pam's IQ score to a z-score.

Answer: _____

Answer(s) submitted:

•
•
(incorrect)

11. (1 point) Almost all medical schools in the United States require applicants to take the Medical College Admission Test (MCAT). On one exam, the scores of all applicants on the biological sciences part of the MCAT were approximately Normal with mean 9.6 and standard deviation 2.6. For applicants who actually entered medical school, the mean score was 10.8 and the standard deviation was 1.8.

(a) What percent of all applicants had scores higher than 12? ANSWER: _____

(b) What percent of those who entered medical school had scores between 10 and 11? ANSWER: _____

Answer(s) submitted:

•
•
(incorrect)

