

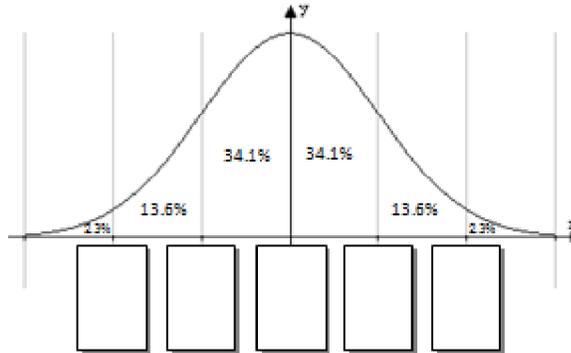
Unit 07-05 - Sample Quiz: Normal Distributions

Multiple Choice

Identify the choice that best completes the statement or answers the question.

_____ 1.

The heights of adult women are normally distributed with a mean of 62.5 inches and a standard deviation of 2.5 inches. Determine between what two heights 68.2% of adult women will fall.



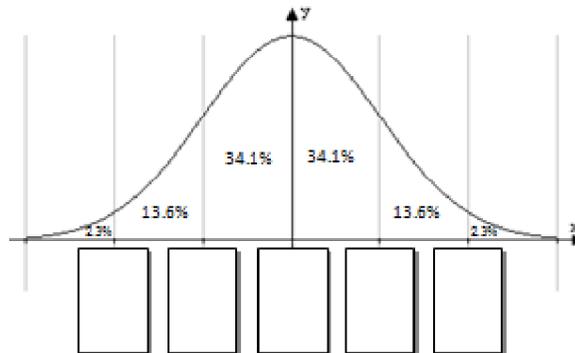
- a. between 52.5 and 72.5
- b. between 60 and 65
- c. between 57.5 and 67.5
- d. between 55 and 70

_____ 2. For a standard normal distribution, what is the mean and standard deviation?

- a. $\mu = 1$
 $\sigma = 0$
- b. $\mu = 1$
 $\sigma = 1$
- c. $\mu = 0$
 $\sigma = 0$
- d. $\mu = 0$
 $\sigma = 1$

_____ 3.

Find the area between the z-scores, $z = 1$ and $z = 2$.

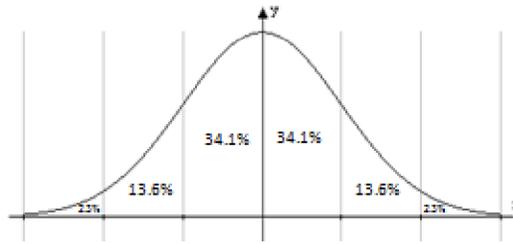


- a. 2.3%
- b. 15.6%
- c. 34.1%
- d. 47.7%

7.

A company's mean salary is \$65,000 with a standard deviation of \$6,000. What is the probability that an employee makes between \$70,000 and \$80,000?

(Hint: First find the z-score for $x = 70000$ and $x = 80000$.)



- a. .8039
- b. .9938
- c. .5643
- d. .1961

8.

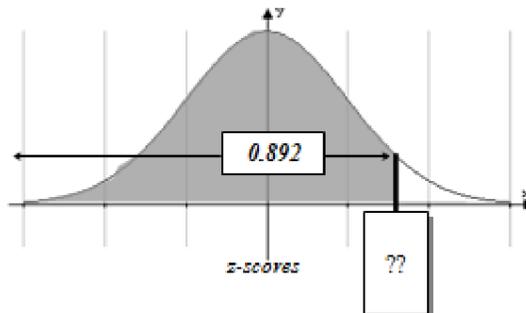
The weight of a specific type of male monkey is normally distributed with a mean of 15 pounds and a standard deviation of 3 pounds. What is the z-score for a monkey weighing 19 pounds?



- a. $z = -1.333$
- b. $z = -0.25$
- c. $z = 0.75$
- d. $z = 1.333$

9.

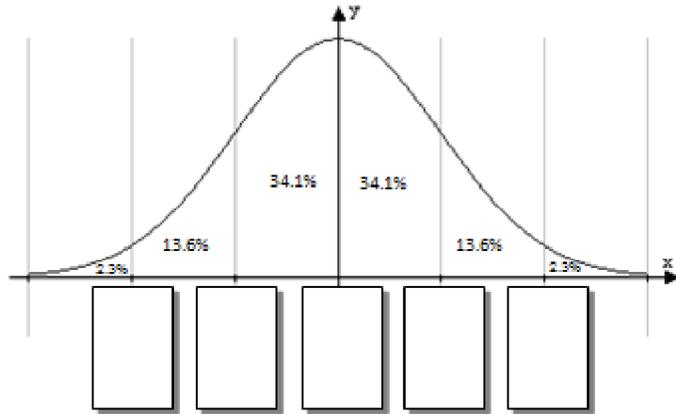
Using a Standard Normal Distribution, what z-score has an area of .892 ?



- a. 0.108
- b. 0.814
- c. 1.237
- d. 1.654

10. A study was being conducted about birth weights of babies at a local hospital and found the average to be 7.6 pounds with a standard deviation of 1.3 pounds (the distribution was approximately normal). Many pre-mature births weights are in the lowest 1% of births. What would be the birth weight associated with the lowest 1%?

(Hint: First use the `invNorm` command in your calculator to find the z-score and then solve for x to find the birth rate)



- | | |
|----------------|----------------|
| a. 2.32 pounds | c. 4.58 pounds |
| b. 3.98 pounds | d. 4.87 pounds |