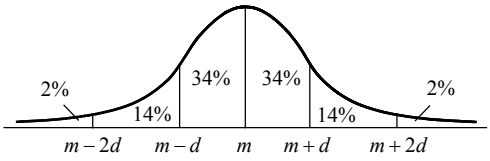
Exercise - Standard Deviation

Questions 1-3 refer to the following information.



The figure above shows a normal distribution with mean m and standard deviation d, including approximate percentages of the distribution corresponding to the regions shown. Suppose the SAT math scores of 1,200 students entering a certain university are normally distributed with a mean score of 600 and standard deviation of 60.

1

Approximately how many of the students have SAT scores between 660 and 720?

2

Approximately how many of the students have SAT scores less than 540?

3

Approximately how many of the students have SAT scores greater than 720?

Questions 4-6 refer to the following information.

Number of Children	0	1	2	3	4
Frequency	1	2	4	0	1

The table above shows the frequency distribution of the number of children in each of 8 families.

4

Let m be the mean of the data set above. What is the value of m?

5

Let d be the standard deviation of the data set above. What is the value of d?
(Round your answer to the nearest hundredth.)

6

Add 2 to each entry on the original list. Let m_a and d_a be the new mean and the new standard deviation of the data set. Which of the following is true?

A) $m_a = m + 2$ and $d_a = d + 2$

B) $m_a = m$ and $d_a = d + 2$

C) $m_a = m + 2$ and $d_a = d$

D) $m_a = m$ and $d_a = d$

7

Multiply each entry by 2 on the original list. Let m_p and d_p be the new mean and the new standard deviation of the data set. Which of the following is true?

A) $m_p = 2m$ and $d_p = 2d$

B) $m_p = m$ and $d_p = d$

C) $m_p = 2m$ and $d_p = d$

D) $m_p = m$ and $d_p = 2d$