

1-1 Standardized Test Prep

Analyzing Data

Multiple Choice

For Exercises 1–5, choose the correct letter. Use the data set below.

Day	9/1	9/2	9/3	9/4	9/5	9/6	9/7	9/8	9/9	9/10	9/11	9/12
Deliveries	14	15	19	15	15	16	19	20	21	29	16	17

- What is the mean of the data set?
 (A) 12 (B) 15 (C) 16.5 (D) 18
- How many modes does the data set have?
 (F) 0 (G) 1 (H) 2 (I) 3
- What is the interquartile range of the data?
 (A) 1.5 (B) 3 (C) 4.5 (D) 15
- What is the median value of the data set *without the outlier*?
 (F) 16 (G) 17 (H) 19 (I) 29
- What value is at the 50th percentile?
 (A) 16 (B) 17 (C) 19 (D) 20

Short Response

- Make a box-and-whisker plot of the data set. Label the median, minimum, maximum, first quartile, and third quartile.

1-2 Standardized Test Prep

Standard Deviation

Multiple Choice

For Exercises 1–4, choose the correct letter.

1. Of the 25 students who take a standardized test, the minimum score is 98 and the maximum score is 472. The mean score is 216, and the standard deviation is 52. What is the number of standard deviations that includes all the data values?

(A) 3 (B) 5 (C) 8 (D) 9

2. What is the standard deviation of the data set below?

87 21 90 43 54 23 123 110 90 44 50

(F) 33.1 (G) 47.0 (H) 66.8 (I) 89.0

3. A data set has a mean of 255 and a standard deviation of 12. All the data values are within two standard deviations of the mean. Which could be the maximum value of the data?

(A) 232 (B) 244 (C) 268 (D) 280

4. The scores on a math test are:

67 69 71 75 78 78 83 85 85 85 85 86 87 89 92 95 98 98 98 100.

Within how many standard deviations of the mean is a score of 100?

(F) 2 (G) 3 (H) 10 (I) 15

Short Response

5. The ages of students in a club are:

13 17 18 15 16 14 15 18 17 16 15 16 13.

Calculate the mean and standard deviation. What is the number of standard deviations that includes all the data values? Show your work.

1-3 Standardized Test Prep

Normal Distributions

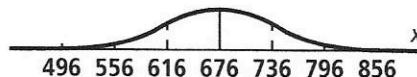
Multiple Choice

For Exercises 1–5, choose the correct letter.

1. The mean number of pairs of shoes sold daily by a shoe store is 36, with a standard deviation of 3. On what percent of days would you expect the store to sell from 33 to 42 pairs of shoes?

(A) 13.5% (B) 50% (C) 68% (D) 81.5%

2. What is the standard deviation for the normal distribution shown at the right?



(F) 60 (H) 120

(G) 360 (I) 676

3. A normal distribution has a mean of 700 and a standard deviation of 35. What is the probability that a value selected at random is at most 630?

(A) 0.0235 (B) 0.025 (C) 0.700 (D) 0.975

4. Scores on an exam are distributed normally with a mean of 76 and a standard deviation of 10. Out of 230 tests, about how many students score above 96?

(F) 2 (G) 3 (H) 6 (I) 8

5. A hardware store sells bags of mixed nails. The number of nails of a given length is distributed normally with a mean length of 5 in. and a standard deviation of 0.03 in. About how many nails in a bag of 120 are between 4.97 in. and 5.03 in. long?

(A) 34 (B) 41 (C) 68 (D) 82

Short Response

6. The heights of the girls in a school choir are distributed normally, with a mean of 64 and a standard deviation of 1.75. If 38 girls are between 60.5 in. and 67.5 in. tall, how many girls are in the choir? Show your work.

Name _____ Class _____ Date _____

Choose the word from the list that best matches each sentence.

1 – 5

bias controlled experiment observational study
population Self-Selected sample

1. The members of a set. _____
2. A study method that involves observing members of a sample without affecting them. _____
3. Systematic error caused by the sampling method. _____
4. A sample that includes only volunteers. _____
5. A study method that involves a control group and a treated group. _____

Choose the word from the list that best completes each sentence.

convenience sample random sample sample
survey systematic sample

6. When conducting a _____, you ask members of a sample a set of questions.
7. All members of the population are equally likely to be chosen in a _____.
8. A _____ includes members of the population who are readily available.
9. A _____ is a part of the population.
10. To create a _____, you must order the population and then select from it at regular intervals.

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