

Chapter 11 – Data and Statistics Pre Test

Directions: Try these five problems without using any resources to help you and record the number of questions you answer correctly. The goal is to give you a snapshot of your current knowledge on this topic and a preview of the chapter to come. Use a calculator only if you need to.

Correct:

1.) Antonia listened to several songs for her music appreciation class. She classified each song by its composer and whether it was written in a minor or major key. The table below shows the distribution of the songs she listened to:

	Key		Total
	Minor	Major	
Mozart	5	12	17
Beethoven	3	17	20
Vivaldi	18	22	40
Total	26	51	77

If one of the songs in a minor key is selected at random, what is the probability that it was composed by Vivaldi?

- A) $\frac{18}{77}$
- B) $\frac{4}{13}$
- C) $\frac{9}{13}$
- D) $\frac{26}{77}$

2.) Which of the following is true about the standard deviations in the two data sets below?

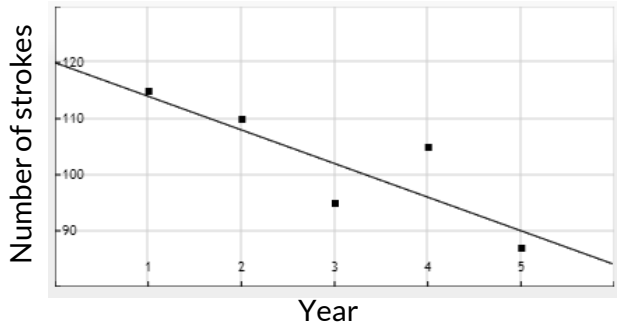
Set X	25,364	34,660	64,879	101,477	121,347
Set Y	21,646	84,002	92,571	224,794	386,024

- A) The standard deviation of Set X is larger than the standard deviation of Set Y.
- B) The standard deviation of Set Y is larger than the standard deviation of Set X.
- C) The standard deviations of Set X and Set Y are equal.
- D) There is not enough information available to compare the standard deviations of the two data sets.

3.) A geologist randomly collected 40 samples of material from a site in Argentina and measured the amount of copper in each sample. He found that the mean mass of the copper deposits was 85.3 grams (g) with an associated margin of error of 12.1 g. Which of the following is the best interpretation of the geologist's findings?

- A) Material collected from a different site in Argentina is likely to include between 73.2 and 97.4 grams of copper deposits.
- B) Most of the copper deposits at this site have a mass between 73.2 g and 97.4 g.
- C) Any mass between 73.2 g and 97.4 g is a plausible value for the mean mass of the copper deposits at this site.
- D) All of the copper deposits the geologist collected had a mass between 73.2 g and 97.4 g.

4.) Sally travels to North Carolina once a year to play golf at an 18 hole golf course. The scatterplot below shows how many times she needed to hit the ball (strokes) to complete all 18 holes during each trip and a line of best fit for the data.



What is the difference between Sally's actual number of strokes and the predicted value in year 4?

- A) 0
- B) 1
- C) 5
- D) 9

5.) Fifty juniors at Sunny Side High School will be selected to participate in a survey about new course offerings for next year. Which of the following methods of choosing the 50 juniors would result in a random sample?

A) Obtain an alphabetical list of all juniors at Sunny Side High School. Give the survey to the first 50 juniors on the list.

B) Tell all juniors at Sunny Side High School that volunteers are needed to fill out a survey. Give the survey to the first 50 juniors who volunteer.

C) Tell all juniors at Sunny Side High School that they will be given \$5 to fill out a survey. Randomly select 50 juniors from those who volunteer, and give the survey to those 50 juniors.

D) Obtain a numbered list of all juniors at Sunny Side High School. Use a random number generator to select 50 juniors from the list, and give the survey to those 50 juniors.

Answer Key:

1.) C

2.) B

3.) C

4.) D

5.) D