Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**7.SP.1**

\_\_\_\_\_1. A school principal wants to determine which type of speaker the students prefer to

invite to an assembly for the entire student population. Which survey method would

produce the **best** representative sample? (2016)

A. survey every fifth person who shops at a mall

B. survey all the students on the student council

C. survey every tenth student entering the school one morning

D. survey all of the students who went to the last basketball game

\_\_\_\_\_2. A seventh grade English Language Arts teacher wants to order books for all the

seventh grade classes. He wants to determine the favorite type of book among the

seventh grade students. Which sample would be the most appropriate for this survey?

(2017)

A. 7 girls in each of his classes

B. every fifth student in the seventh grade

C. 1 out of 7 students in his middle school

D. all of the boys in one of his seventh grade classes

\_\_\_\_\_3. A middle school principal wants to change the lunch menu at the school. The principal

surveys the students to determine how the students would feel about the changes.

Which survey method will **best** produce the representative sample? (2019)

A. survey every fifth student who rides in a car to school

B. survey 3 randomly selected students from every homeroom

C. survey every tenth seventh grade student during lunch

D. survey 5 randomly selected students from every art, drama, and music class

**7.SP.2**

\_\_\_\_\_1. Laticia randomly selected 25% of the seventh-grade students in her school and asked

them their favorite season. Of the students surveyed, 51 chose summer as their

favorite season. Based on the data, what is the most reasonable prediction of the

number of seventh-grade students in her school who would choose summer as their

favorite season? (2014)

A. 15 B. 75 C. 150 D. 200

\_\_\_\_\_2. To select a new school mascot, 20 randomly selected students in each grade were

asked to choose between the two finalists: tiger and eagle. The results are shown

below. (2014)



Which statement is **best** supported by the results?

A. The preferred mascot is a tiger.

B. The preferred mascot is an eagle.

C. Fifth and sixth grade students at the school preferred an eagle mascot.

D. Seventh and eighth grade students at the school preferred an eagle mascot.

3. Two math classes took the same quiz. The scores of 10 randomly selected students from

each class are listed below.

* Sample of Class A: 75, 80, 60, 90, 85, 80, 70, 90, 70, 65
* Sample of Class B: 95, 90, 85, 90, 100, 75, 90, 85, 90, 85

Based on the medians of the scores for each class, what inference would you make about the quiz scores of all of the students in Class A compared to all of the students in Class B? **Explain your reasoning to justify your answer**. (2016)

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4. A museum employee surveys a random sample of 350 visitors to the museum. Of those visitors, 266

stopped at the gift shop. Based on these results, about how many people out of 2,300 visitors to the

museum would be expected to stop at the gift shop?

**Answer** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ visitors

**7.SP.3**

\_\_\_\_\_1. Ms. Andrews made the line plots below to compare the quiz scores for her first-period

math class and her second-period math class. She gave the same quiz to each class.



What conclusion can Ms. Andrews make about the performance of her first- and

second-period classes? (2014)

A. The first-period class had a higher median score than the second-period class.

B. The second-period class scores had a higher mean than the first-period class scores.

C. The first-period class scores had a greater range than the second-period class

scores.

D. The second-period class scores had a greater mean absolute deviation than the first-

period class scores.

\_\_\_\_\_2. An electronic sign that showed the speed of motorists was installed on a road. The

line plots below show the speeds of some motorists before and after the sign was

installed.



Based on these data, which statement is true about the speeds of the motorists after

the sign was installed? (2016) (no calculator)

A. The mean speed and the range of the speeds of the motorists decreased

B. The median speed and the range of the speeds of the motorists increased

C. The mean speed of the motorists decreased and the range of the speeds increased

D. The median speed of the motorists increased and the range of the speeds decreased

\_\_\_\_\_3. A bowling team participates in a two-day tournament and records the scores for each

team member on both days. The scores for both days are represented by the box

plots below.



Which conclusion can be drawn from the box plots? (2017)

1. The scores on Friday and the scores on Saturday have the same median and interquartile range.
2. The scores on Friday have a greater median and a greater interquartile range than the scores on Saturday.
3. The scores on Friday have a greater interquartile range than the scores on Saturday, but both data sets have the same median.
4. The scores on Friday have a greater median than the scores on Saturday, but both data sets have the same interquartile range.

\_\_\_\_\_4. A principal gathered data about the distance, in miles, that his teachers and bus drivers live

from the school. The box plots below show these data.



Based on the box plots, which statement is true? (2018)

1. The interquartile range of the distances for the bus drivers is twice the interquartile range of the distances for the teachers.
2. The range of the distances for the teachers is twice the range of the distances for the bus drivers.
3. The interquartile range of the distances for the bus drivers is 5 miles less the interquartile range of the distances for the teachers.
4. The range of the distances for the teachers is 5 miles less than the range of the distances for the bus drivers.

**7.SP.4**

\_\_\_\_\_1. Malika and Adrian prepared containers of potato salad at a deli. Each container was supposed

to have a mass of one pound. The manager selected a random sample of containers prepared

by each employee to check the mass of each container. The results are shown in the table

below. (2015)



Which inference is **best** supported by these data?

A. Malika will produce more containers with a mass of exactly one pound than Adrian will.

B. Adrian will produce more containers with a mass of exactly one pound than Malika will.

C. Most of Malika’s containers will have a mass closer to one pound than most of Adrian’s

containers.

D. Most of Adrian’s containers will have a mass closer to one pound than most of Malika’s

containers.

\_\_\_\_\_2. A researcher surveyed five randomly selected employees from each of four different companies about

their daily commutes to work. The table shows the commute times for the surveyed employees. (2017) no calculator



Based on the data, which company **most likely** has the longest average commute

time per employee?

1. Company 1 B. Company 2 C. Company 3 D. Company 4