AUBURN SCHOOL DISTRICT
ENGAGE • EDUCATE • EMPOWER

Student Name_____
Date _____
Grade 7 _____/ 12

7.SP Domain Assessment

1

Rita wants to estimate the number of students from her seventh grade class whose favorite subject is math. She plans to ask 40 students and wants the best chance that it will be representative of her seventh grade class. From which of the following populations should she randomly select her sample?

A. Students in a math class.
B. Students on a school bus.
C. Students in a seventh grade assembly.
D. Students in the cafeteria.

2

A random sample of 50 students from a middle school with 500 students is surveyed. Each student is asked what elective he or she is taking and all students at the school take an elective. The table shows the responses.

Elective	Number of Students
PE	6
Home Ec	10
Band	12
Choir	4
Art	18

Based on the survey results, which statement about all of the students at the middle school is most appropriate to make?
A. Twice as many students at the middle school are taking Art than are taking PE.
B. About 10% of students at the middle school are taking Home Ec.
C. It is estimated that about 120 of the students at the middle school are taking Band.
D. In a group of 25 students at the middle school, it is expected that 4 of the students are taking Choir.

3

An Ice Cream Store manager wants to estimate how many of each type of ice cream will be purchased in a month. The manager keeps track of the orders for one week. The table shows the results.

Type of Ice Cream	Number Ordered
vanilla	144
strawberry	81
chocolate	189

Based on the data, which estimate best represents the number of times each type of ice cream is likely to be ordered in a month?

- ○ A. 900 vanilla, 440 strawberry, 300 chocolate
- ○ B. 250 vanilla, 150 strawberry, 800 chocolate
- ○ C. 620 vanilla, 900 strawberry, 450 chocolate
- ○ D. 580 vanilla, 320 strawberry, 760 chocolate

4

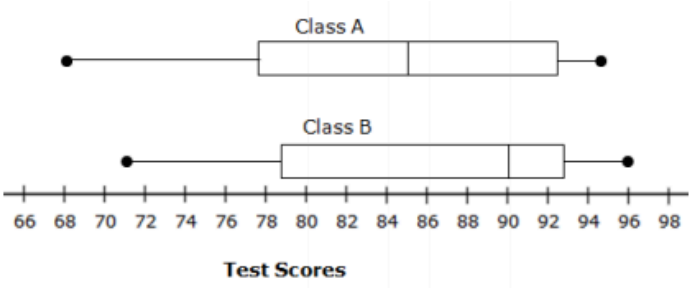
A teacher determined that 60% of the students in her classes bring sunglasses to school when sun is forecasted. She has a total of 120 students in her classes.

Select **all** the statements below that are **valid** based on the teacher's data.

- ○ A. On days when sun is forecasted, ⅗ of her students bring sunglasses to school.
- ○ B. On days when sun is forecasted, about 50 of her students bring an sunglasses to school.
- ○ C. On days when sun is forecasted, more than ½ of her students bring sunglasses to school.

5

The box plot shows a summary of test scores for Class A and Class B on the same exam. Both classes have the same number of students.

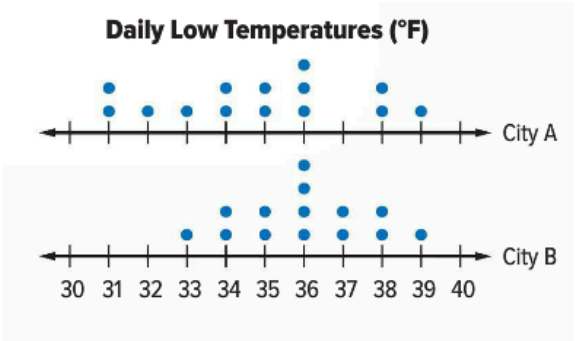


Determine whether each statement is true based on these box plots.
Select True or False for each statement.

Statement	True	False
In each class, at least 75% of students scored below 92 on the test.		
The median test score of Class B is 5 points more than the median test score of Class A.		
In each class, more than 75% of students have test scores greater than 80.		

6

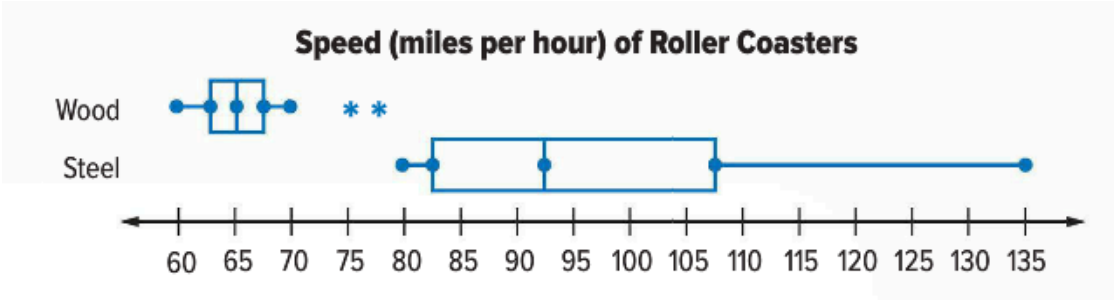
The double dot plot below shows the daily low temperatures of two cities in January over a two week period. Determine if each statement is true or false.



Statement	True	False
The range of temperatures is the same.		
The median of City B is higher than City A.		
The temperatures for City A are more consistent.		

7

The double box plot shows the top speeds reached by wood and steel roller coasters.



Select **all statements** that are true about the double box plot:

O A. The data for steel coasters is symmetric.
O B. The data for wood coasters is symmetric.
O C. The top speed of the fastest steel coaster is 135 miles per hour.
O D. The top speed of the slowest wooden coaster is 60 miles per hour.

8

A deck of 12 cards labeled 1 through 12 cards is shuffled. One card is selected at random.

Determine whether each statement correctly describes the likelihood of an event based on the given deck of cards. Select True or False for each statement.

Statement	True	False
It is impossible that a card with a number greater than 12 is selected.		
It is unlikely that a card with a number greater than 10 is selected.		
It is certain that a card with a prime number is selected.		
It is likely that a card with a number more than 12 is selected.		

9

This table shows the outcomes of a spinner with 4 equal sections colored orange, blue, red, and white.

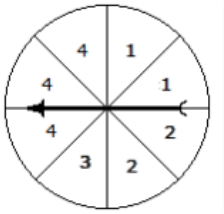
Section	Outcomes
Orange	24
Blue	25
Red	21
White	30

Based on the outcomes, which number is the best prediction for the number of times the spinner is expected to land on the white section if it is spun 50 times?

A. 15
B. 11
C. 10
D. 9

10

This spinner is divided into 8 equal-sized sections.



Enter the probability of the arrow landing on a section labeled 4 on the first spin.

11

A fair coin is flipped 10 times. It lands facing heads down 6 out of 10 times. The probability of a coin landing heads down on one flip is ½.

Select the statement that gives the most likely explanation for why the observed frequency is different than the predicted probability.

A. The kind of coin used is too heavy.
B. The total number of coin flips is small.
C. The coin had heads on both sides.
D. The probabilities $\frac{3}{5}$ and $\frac{1}{2}$ have different denominators.

12

Two number cubes, each with faces labeled 1 through 6, are rolled at the same time.

Enter the probability that both number cubes have a 3 facing up in one roll.