6th Grade Common Core – Problem Solving Connection
Unit 2: Know Your Customers
Statistics and Probability
CC 6.SP 1, 2, 3, 4, 5a-d

Name _____

Date _____

Period _____

Amusement Park Admission Price and Attendance

As an amusement park owner your job is to maximize your profit. That means getting the most people to attend your park at the highest admission price. You decide to run an experiment this summer. You will have six weekends where your admission price will be $49, and six weekends where the price will be $59.

1. **Display Numerical Data**
   a. You record the attendance at the end of each weekend day. Is the question, "How many people attend the amusement park each weekend day?" a statistical question? Why or why not?

   b. The attendance at the park is shown for six weekends (Saturday and Sunday attendance) at each price.

Attendance at $49 per person (in thousands of people)					Attendance at $59 per person (in thousands of people)			
52.7	51.3	49.2	50.1		49.4	48.6	47.5	47.1
52.4	50.3	52.0	49.6		46.9	52.3	49.3	47.0
51.8	52.0	51.2	53.0		51.9	49.5	48.3	47.5

How many data points are there for each price? _____

What units are used to measure daily attendance? _____

   c. Make a **dot plot** for each data set.

$49 Admission Ticket Price

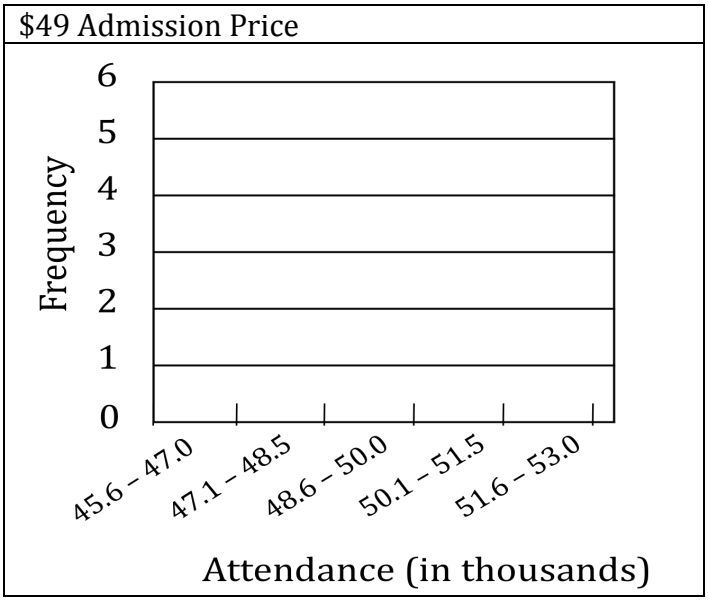
Attendance (in thousands of people)

$59 Admission Ticket Price

Attendance (in thousands of people)

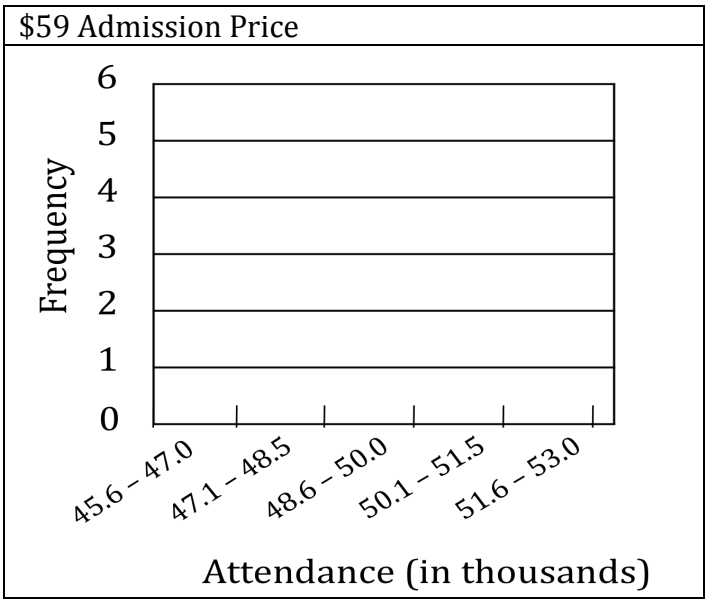
d. Make a **frequency table** and **histogram** for attendance at $49 ticket price.

$49 Admission Price	
Interval	Frequency
45.6-47.0	
47.1-48.5	
48.6-50.0	
50.1-51.5	
51.6-53.0	



e. Make a **frequency table** and **histogram** for attendance at $59 ticket price.

$59 Admission Price	
Interval	Frequency
45.6-47.0	
47.1-48.5	
48.6-50.0	
50.1-51.5	
51.6-53.0	



2. **Measures of Center**
   a. Find the mean and median of the attendance on the $49 admission ticket days. Round to the nearest hundredth.

   b. Find the mean and median of the attendance on the $59 admission ticket days. Round to the nearest hundredth.

3. **Measures of Variability**
   a. Find the lower quartile, upper quartile, least attendance, and greatest attendance for the days when the ticket price is $49.

   b. Make a **box plot** for each data set.

$49 Admission Ticket Price

Attendance (in thousands of people)

   c. Find the lower quartile, upper quartile, least attendance, and greatest attendance for the days when the ticket price is $59

   d. Make a **box plot** for each data set.

$59 Admission Ticket Price

Attendance (in thousands of people)

4. **Answer the Question**
    a. According to the data, which ticket price generates higher attendance? Use information from the previous exercises to support your answer.

    b. Which ticket prices shows less variability in the daily attendance? How do you know? What might this mean?

    c. The income from admissions is equal to the number of attendees times the ticket price. What is the income from admissions on a typical day when the admission price is $49?

    What is the income from admission on a typical day when the admission price is $59?

    d. Do you think you should set your admission ticket price to $49 or $59? Explain.