

# Clusters, Gaps, and Outliers

### Ask Yourself

- How do I use the line plot to find the median, the mode, and the range?
- How do outliers affect the data?

The data set shows how many students were absent from Oakdale Middle School during the last 10 days. Use the data set for Exercises 1–2.

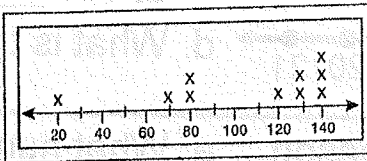
3, 20, 18, 21, 18, 20, 18, 21, 19, 2

1. Make a line plot of the data. Identify any clusters, gaps, and outliers. Find the mean, median, and mode.
2. Suppose the outliers were not in the data set. Compare the mean, median, and mode with and without the outliers.

Mean \_\_\_\_\_  
 Median \_\_\_\_\_  
 Mode \_\_\_\_\_

Mean \_\_\_\_\_  
 Median \_\_\_\_\_  
 Mode \_\_\_\_\_

Use the line plot for Exercises 3–6.



3. Find the mean, median, mode and range.
4. Suppose the outlier was not in the data set. Compare the mean, median, and mode with and without the outlier.

Mean \_\_\_\_\_  
 Median \_\_\_\_\_  
 Mode \_\_\_\_\_  
 Range \_\_\_\_\_

Mean \_\_\_\_\_  
 Median \_\_\_\_\_  
 Mode \_\_\_\_\_

5. How does the outlier affect the mean?  
 \_\_\_\_\_

## Problem Solving

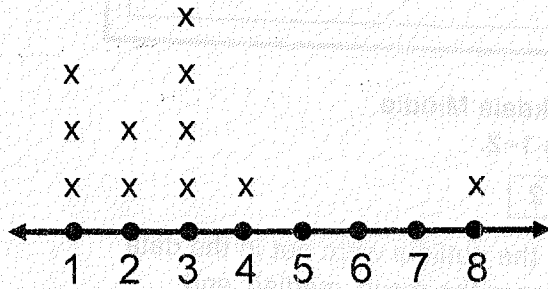
Show Your Work

6. Suppose 3 more data pieces are added to the original set: 20, 30, and 30. Would this change the mean, median, mode, or range? Explain how.  
 \_\_\_\_\_

## Center & Spread Practice

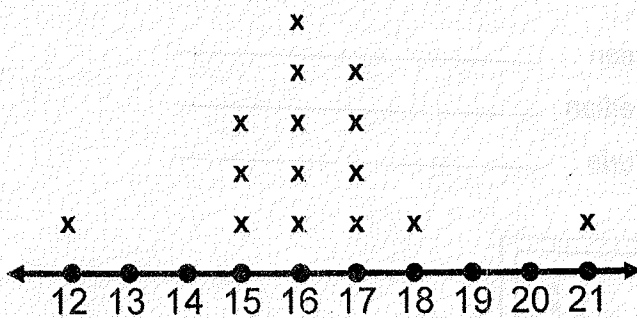
For each dot plot, circle and label the clusters, gaps and outliers. Answer the questions.

### 1. Number of Pets



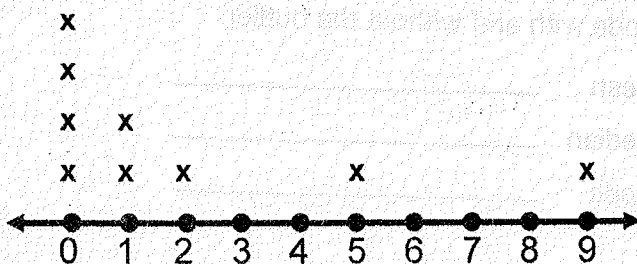
- What is the most common number of pets owned? \_\_\_\_\_
- How many pets are there total?  
\_\_\_\_\_
- How many people own 1 pet? \_\_\_\_\_
- What numbers make up the gap?  
\_\_\_\_\_

### 2. Age Learned to Drive



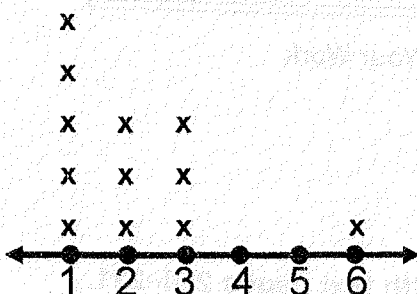
- What is the most common age this group learned to drive? \_\_\_\_\_
- What numbers make up the cluster? \_\_\_\_\_
- How many people learned to drive at 15? \_\_\_\_\_
- What is the youngest age? \_\_\_\_\_

### 3. Number of Home Runs/Season



- What numbers are included in the cluster? \_\_\_\_\_
- How many gaps are there? \_\_\_\_\_
- What 2 numbers are significantly higher than the others? \_\_\_\_\_
- How many people made no home runs? \_\_\_\_\_

### 4. Number of Siblings



- What is the highest number of siblings? \_\_\_\_\_
- What numbers make up the gap?  
\_\_\_\_\_
- What is the most common number of siblings? \_\_\_\_\_
- How many have 1 sibling? \_\_\_\_\_