

NAME: \_\_\_\_\_

## UNIT 4 • DESCRIBING DATA

### Lesson 1: Working with a Single Measurement Variable

#### Problem-Based Task 4.1.4: Family Car Trips

Engineers with XY Electronics Company are conducting research before designing a new portable DVD player. Because portable DVD players are often used by families traveling by car, the engineers want to understand the average length of a car trip. This way, they can design a battery that lasts long enough for the average car trip. The engineers surveyed 20 families about the length, in hours, of their most recent car trip. The results are in the table below.

| Family | Trip length in hours | Family | Trip length in hours |
|--------|----------------------|--------|----------------------|
| A      | 1                    | K      | 2                    |
| B      | 2                    | L      | 3                    |
| C      | 7                    | M      | 3                    |
| D      | 3                    | N      | 1                    |
| E      | 6                    | O      | 4                    |
| F      | 7                    | P      | 1                    |
| G      | 18                   | Q      | 6                    |
| H      | 5                    | R      | 15                   |
| I      | 7                    | S      | 8                    |
| J      | 5                    | T      | 3                    |

Describe the data, and create a graph to represent the information. The engineers want the battery to last long enough for at least 50% of family car trips. What is the minimum amount of time the battery should last?

NAME: \_\_\_\_\_

## UNIT 4 • DESCRIBING DATA

### Lesson 1: Working with a Single Measurement Variable

---

#### Problem-Based Task 4.1.4: Family Car Trips

##### Coaching

- a. Sort the data from least to greatest.
- b. Calculate the interquartile range.
- c. Are there any outliers in the data set?
- d. How do the outliers influence the center of the data?
- e. Determine which measure of center to use to describe the data.
- f. Which type of graph will show the average estimated time of a car trip?
- g. Create the identified graph.
- h. How do the outliers influence the shape and spread of the data?
- i. Which measure divides the data in two halves?
- j. Given that the engineers want the battery to last long enough for at least 50% of family car trips, what is the minimum amount of time the battery should last?