

Lesson 2-4

# Reinforce Understanding

## Represent and Describe Data in a Box Plot

I can make and read a box plot to summarize a data set.

### Worked model

Seven daily high temperatures in degrees are 58, 71, 64, 83, 66, 77, 61. Build the box plot.

1. Order the values: 58, 61, 64, 66, 71, 77, 83.
2. Mark the median, 66 — the middle value of the seven.
3. Lower half 58, 61, 64 gives quartile 1 as 61. Upper half gives quartile 3 as 77.
4. Draw a box from 61 to 77 with a line at 66, then whiskers out to 58 and to 83.

**Answer: Five-number summary: 58, 61, 66, 77, 83. The box covers the middle half of the data.**

### Practice

Complete each exercise. Show the reasoning that supports your answer.

**1. On a box plot, what does the line inside the box represent?**

Circle the letter of the best answer. Show how you know.

- A. The median
- B. The mean
- C. The mode
- D. The range

Show your work

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**2. Order the steps for making a box plot.**

Write the name of the correct group on each line.

Groups: Steps (in order)

- \_\_\_\_\_ Step 1: Order the data from least to greatest
- \_\_\_\_\_ Step 2: Find the median (middle value)
- \_\_\_\_\_ Step 3: Find Q1 (median of the lower half)
- \_\_\_\_\_ Step 4: Find Q3 (median of the upper half)
- \_\_\_\_\_ Step 5: Draw the box from Q1 to Q3 with a line at the median, and whiskers to min and max

**3. A box plot shows: Min = 10, Q1 = 15, Median = 20, Q3 = 28, Max = 35. What is the interquartile range (IQR)?**

Circle the letter of the best answer. Show how you know.

- A. 10
- B. 13
- C. 20
- D. 25