MIXED REVIEW of Problem Solving

MATHEMATICAL PRACTICES Make sense of problems and persevere in solving them.

1. **MULTI-STEP PROBLEM** A doctor would like to extend her office hours to better accommodate her patients. She asks each patient who visits her office on Tuesday which day the patient thinks the hours should be extended.

   a. Identify the population and classify the sampling method.

   b. Tell whether the survey method used is likely to result in a biased sample.

2. **GRIDDED ANSWER** The average lengths (in hours) of several morning commutes are listed below. How many minutes is the mean commute?

   0.25, 0.20, 0.50, 0.50, 0.50, 0.05, 0.65, 1.00, 1.50, 0.75, 0.50, 1.10, 0.60, 0.80, 1.00, 0.10

3. **EXTENDED RESPONSE** The prices (in dollars) of portable DVD players at two different stores are listed below.

   Store A: 280, 200, 260, 230, 200, 150, 300, 260, 500, 190

   Store B: 350, 190, 230, 250, 400, 200, 200, 220, 185, 150

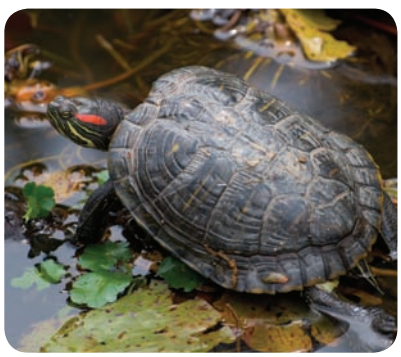
   a. Find the mean, median, and mode(s) of each data set. Which measure of central tendency best represents each data set? *Explain* your reasoning.

   b. Find the range and mean absolute deviation of each data set. Which store's prices are more spread out? *Explain*.

   c. Can any of the prices of the portable DVD players be considered outliers? *Explain* your reasoning.

4. **OPEN-ENDED** A clothing store sells several different styles of jeans. The mean price of the jeans is $27. The median price of the jeans is $27.50. The mode of the prices is $20. Make a list of prices of jeans that has these measures of central tendency.

5. **SHORT RESPONSE** A group of students plans to lobby their town officials to enact conservation rules protecting the habitat of a species of turtle in their area. First, the students will conduct a survey to determine whether there is voter support for such rules. *Describe* how the students might choose a representative sample for their survey.



6. **GRIDDED ANSWER** A commuter records the length of time (in minutes) that she waits for a morning subway train each day for two work weeks. The times are listed below.

   5, 4, 10, 6, 12, 9, 3, 8, 5, 2

   What is the standard deviation of the times to the nearest tenth?