

1. **MULTI-STEP PROBLEM** You gathered 36 apples from your backyard apple tree in order to make apple pies and applesauce. You use 7 apples to make one apple pie and 5 apples to make one pint of applesauce.
 - a. Write an inequality that describes the possible numbers of apple pies and pints of applesauce that you can make.
 - b. Graph the inequality.
 - c. Give three possible combinations of apple pies and pints of applesauce that you can make.

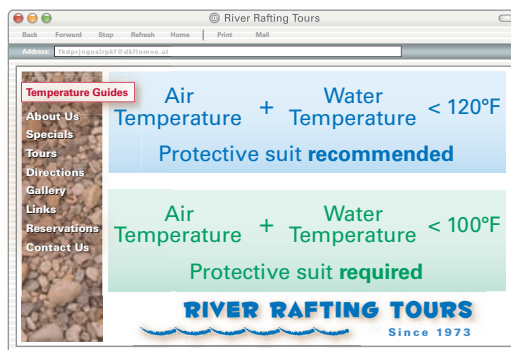
2. **SHORT RESPONSE** You are scooping ice cream as part of your training at an ice cream shop. The weight of a scoop must be 4 ounces with an absolute deviation of at most 0.5 ounce.
 - a. Write an inequality to find the possible weights (in ounces) of each scoop.
 - b. You make 10 scoops. You can start working at the shop if at least 80% of the scoops meet the weight requirement. The list shows the weights (in ounces) of your scoops.
3.8, 4.2, 3.9, 4.5, 3.7, 4.6, 4.1, 3.3, 4.3, 4.2
Can you start working at the shop? *Explain* your reasoning.



3. **GRIDDED ANSWER** You will be making a presentation in your history class. Your teacher gives you a time limit of 15 minutes with an absolute deviation of 1.5 minutes. What is the maximum possible duration (in minutes) of your presentation?

4. **OPEN-ENDED** Describe a real-world situation that can be modeled by the equation $|x - 50| = 10$. Explain what the solution of the equation means in this situation.

5. **EXTENDED RESPONSE** A tour operator recommends that a river rafter wear a protective suit under the temperature conditions described below.



- a. Write and graph an inequality that describes the possible air temperatures and water temperatures for which a protective suit is recommended.
 - b. If the water temperature is 40°F , for which air temperatures is a protective suit recommended?
 - c. How would you change the graph in part (a) in order to describe the situations in which a protective suit is required? *Explain* your answer.
6. **MULTI-STEP PROBLEM** You are buying a new cell phone and see eight phones listed on a website. The prices of the phones are shown.
\$139, \$249, \$229, \$199, \$179, \$359, \$199, \$209
 - a. Find the mean price of the phones.
 - b. You are willing to purchase a phone that has the mean price with an absolute deviation of at most \$50. Write and solve an inequality to find the prices of phones that you will consider.
 - c. How many of the phones on the website will you consider buying?