

Name \_\_\_\_\_

## Problem Solving

- 1.** You are organizing the stage for a school concert and have to decide how many chairs to put on the stage for the performers. Do you have to know exactly how many chairs you need or only approximately how many you need? Explain your answer.

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- 2.** Use estimation to decide whether  $5 \times 73$  is larger or smaller than 350. Explain your answer.

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- 3.** Your mother asks you to walk to the store to buy groceries. She gives you \$20.00 to pay for the groceries. You buy a bag of potatoes for \$3.76, one pie for \$3.37, two gallons of milk for \$4.38, and cheese for \$11.96. Do you have enough money? Show your work.

Use the following information to answer Questions 4 and 5.

Temperatures can be measured in degrees Fahrenheit (°F) or in degrees Celsius (°C). The freezing point of water is 32°F and 0°C. The boiling point of water is 212°F and 100°C.

4. The temperature 75°C is  $\frac{3}{4}$  of the way between the freezing point and boiling point on the Celsius scale. Find the temperature that is  $\frac{3}{4}$  of the way between the freezing point and boiling point on the Fahrenheit scale. Show your work.
5. Apply the strategies you used in Question 4 to find the Celsius temperature that corresponds to 140°F. Show your work.

## TEACHER SCORING GUIDE

### Problem Solving

Item Number	Answer	Standards Indicator
1	Exactly You want to make sure that you have exactly the right number of chairs so that each performer has a chair.*	5.7.5
2	Larger $5 \times 73$ is larger than 350, because $5 \times 70 = 350$ and $70 < 73$ .*	5.7.6, (5.2.6)
3	You do not have enough money. The total cost is \$23.47, which is greater than \$20.00.*	5.7.7, (5.5.7)
4	$\frac{3}{4} \times (212 - 32) = 135^*$ Answer is $32 + 135 = 167$	5.7.1, 5.7.3, 5.7.4, (5.2.4, 5.5.6)
5	$140^\circ\text{F}$ is $\frac{3}{5}$ (or $\frac{108}{180}$ ) of the way between $32^\circ\text{F}$ and $212^\circ\text{F}$ .* The answer in $^\circ\text{C}$ is $\frac{3}{5}(100 - 0)$ which equals $60^\circ\text{C}$ .	5.7.1, 5.7.3, 5.7.4, 5.7.9, (5.2.4, 5.5.6)

\* Give credit for all valid answers.

