EVALUATING CHANGE You can use subtraction to find the change in a quantity, such as elevation or temperature. The change in a quantity is the difference of the new amount and the original amount. If the new amount is greater than the original amount, the change is positive. If the new amount is less than the original amount, the change is negative.

EXAMPLE 3 Evaluate change

TEMPERATURES One of the most extreme temperature changes in United States history occurred in Fairfield, Montana, on December 24, 1924. At noon, the temperature was 63°F. By midnight, the temperature fell to −21°F. What was the change in temperature?

Solution

The change C in temperature is the difference of the temperature m at midnight and the temperature n at noon.

STEP 1 **Write** a verbal model. Then write an equation.

$$\boxed{\text{Change in temperature}} = \boxed{\text{Temperature at midnight}} - \boxed{\text{Temperature at noon}}$$
$$C = m - n$$

AVOID ERRORS
When a quantity decreases, the change is negative. So, the change found in Example 3 should be a negative number.

STEP 2 **Find** the change in temperature.

$C = m - n$	**Write equation.**
$= -21 - 63$	**Substitute values.**
$= -21 + (-63)$	**Add the opposite of 63.**
$= -84$	**Add −21 and −63.**

▶ The change in temperature was −84°F.

USING A CALCULATOR To enter a negative number on a calculator, use the (−) key. To enter a subtraction sign, use the − key. You can use a calculator to check your answer in Example 3 using the following keystrokes.

(−) 21 − 63 ENTER

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-21-63
            -84
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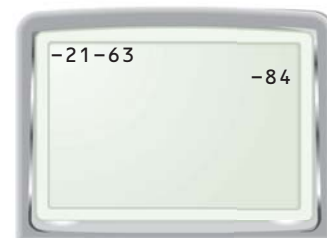
✓ **GUIDED PRACTICE** for Examples 2 and 3

Evaluate the expression when $x = -3$ and $y = 5.2$.

4. $x - y + 8$ **5.** $y - (x - 2)$ **6.** $(y - 4) - x$

7. CAR VALUES A new car is valued at $15,000. One year later, the car is valued at $12,300. What is the change in the value of the car?