Name Date Time

STUDY LINK 10•5

Cricket Formulas

SRB 218

In 1897, the physicist, A. E. Dolbear, published an article titled "The Cricket as a Thermometer." In it he claimed that outside temperatures can be estimated by counting the number of chirps made by crickets and then by using that number in the following formula:

$$\text{Outside temperature (°F)} = \frac{(\text{number of cricket chirps per minute} - 40)}{4} + 50$$

1. Write a number model for the formula. _____

2. According to this formula, what is the estimated outside temperature if you count 80 chirps in a minute? _____

Other cricket formulas exist. The following formula is supposed to work particularly well with field crickets:

Outside temperature (°F) = (number of chirps in 15 seconds) + 37

3. Write a number model for the formula. _____

4. According to this formula, what is the estimated outside temperature if you counted 35 chirps in 15 seconds? _____

5. Compare the two formulas. If you count 30 chirps in 15 seconds, what is the estimated outside temperature for each formula?

a. First formula: _____

b. Second formula: _____

Practice

6. $7 - 2\frac{2}{5} =$ _____

7. $1\frac{1}{2} + 2\frac{2}{3} + 3\frac{3}{4} + \frac{1}{12} =$ _____

8. $\left(\frac{2}{3} * \frac{2}{3}\right) - \frac{2}{9} =$ _____

9. $\frac{12}{9} \div \frac{1}{3} =$ _____