

# Individual Programming Challenges

## Chapter 2

**Classwork:** **Choose and complete 2** of the following challenges.  
Have your programs checked upon completion.

- 1.) Write a program that initializes the length and width of a rectangle to 2 and 3, respectively. Calculate and output the perimeter of the rectangle as well as the length of the diagonal (use the Pythagorean Theorem).
- 2.) Write a program that assigns an elapsed time in seconds for a cycling event. The program then outputs the elapsed time in hours, minutes and seconds. (Example, if the elapsed time is 9630 seconds, the output would be 2:40:30).
- 3.) Write a program that assigns a length expressed in centimeters. The program should convert the length to inches (to the nearest inch), and output the length expressed in yards, feet and inches, in that order. For example, 123 inches would be output as: 3 yards(s), 1 foot (foot), and 3 inch(es).