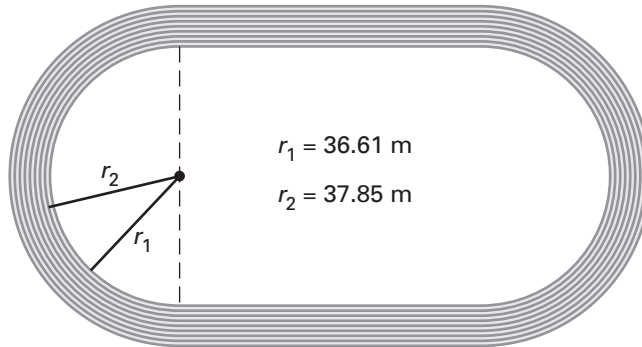NAME _____ DATE _____

Real-Life Application: When Will I Ever Use This?

For use with pages 683–689

Running Track

The running track shown below has eight lanes. Each lane is 1.24 meters wide. There is a 180° arc at each end of the track and the straight sections have a length of 85 meters. The radii for the arcs in the first two lanes are given.

$r_1 = 36.61$ m

$r_2 = 37.85$ m

1. Find r_3, r_4, r_5, r_6, r_7, and r_8.

2. Find the distances around Lanes 1 through 8. Round your results to two decimal places.

3. Use your results from Exercise 2 to approximate the increase in distance between each lane.

4. Find the running distance between the straight aways for each lane. Round your results to two places.

5. Suppose you are racing two of your friends in the 200-meter dash. All three of you line up next to one another. What is wrong with your starting positions?