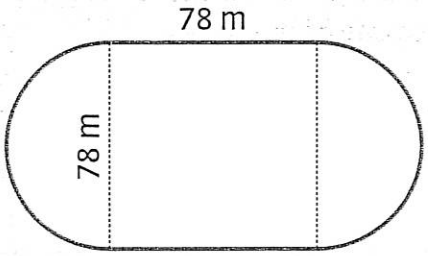
Key

Study the model below. Then solve problems 22–24.

Student Model

A middle school is building an oval practice track with dimensions shown below. What is the distance around the track? Use 3.14 for π.



Look at how you could solve the problem by thinking about the track as a square and two semicircles.

The ends of the track are two semicircles that form a circle with diameter 78 m.

circumference = (3.14)(78) = 244.92 m

length of 2 sides of the square = 2(78) = 156 m

distance around the track = 244.92 + 156 = 400.92 m

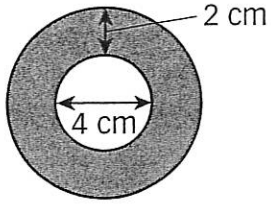
Solution: 400.92 m

The student solved the problem by finding the circumference of a circle and adding that to the length of two sides of the square.

Pair/Share

How could you estimate the distance to be sure that your answer makes sense?

22 What is the area of shaded region? Use 3.14 for π and round your answer to the nearest tenth.



$A_{shaded} = A_{\text{large circle}} - A_{\text{small circle}}$

$= \pi r^2 - \pi r^2$

$= (3.14)(4^2) - (3.14)(2^2)$

Solution: 37.7 sq cm

How can you find the radius of the larger circle?

Pair/Share

How did you decide how to solve this problem?