

On the Right Track

You need: a drawing compass, a calculator, a narrow strip of card

ACTIVITY



Your school is getting ready for the athletics season, and the caretaker needs your help. He has to mark out an oval running track with 8 lanes.

1. The straights are each 100 metres long, and the total length of the inside track is 400 metres. How long is each inside semi-circular section?
2. The circumference of a circle can be found by multiplying its diameter by pi (π). Find the diameter of the 2 semicircles you need to complete the track.

Use the π function on your calculator.
3.
 - a. Draw the inside boundary of the athletics track to scale (use 2 millimetres : 1 metre).
 - b. Each of the 8 lanes is 75 centimetres wide. Accurately construct the outer edge of the track, using the same scale.
4.
 - a. If you ran along the line marking the inner edge of lane 8, how far would you have run before you got back to your starting point?
 - b. How much further is this than the distance around the inner edge of the inside lane?
5. The finish line for all races is at the end of one of the 100 metre straights. On your diagram, mark and label the 200 metre and 400 metre starting positions for the runners in the inside lane and the outside lane.

6. A lot of field events are planned for the middle of the track. How much area is available?
7. Someone suggests that there would be more area in the middle if the track were a circle instead of an oval.
 - a. Is this correct? Calculate the area of the circle so that you can be sure.
 - b. Compare the two areas using ratio or percentage.
8.
 - a. Using the same scale as before, draw a diagram of a circular race track that has an inner lane 400 metres long.
 - b. What is the distance around the outside of lane number 8?
9. Mark a finish line on the round track. On your diagram, mark and label the 200 metre and 400 metre starting positions for the runner in the outside lane.

