Test - Circles: circumference and area

Year: Year 8 · Duration: 45 minutes · /20

Name:	Date:	**Mark: /20**

Question	1	2	3	4	5	Total
marks	4	4	4	4	4	**20**
Mark						

Show your working.

Question 1 (4 marks)

Question 1 – Circumference and area

Use the π button on your calculator and give answers to 1 decimal place.

a. A circle has radius 9 cm. Find its circumference. (2 marks)
b. A circle has diameter 14 cm. Find its area. (2 marks)

Question 2 (4 marks)

Question 2 – Working backwards

Use $\pi = 3.14$.

a. The circumference of a circle is 37.68 cm. Find the diameter and the radius. (2 marks)
b. The area of a circle is 200.96 cm². Find the radius. (2 marks)

Question 3 (4 marks)

Question 3 – Semicircle

A semicircular flower bed has a diameter of 10 m.

a. Find its area. (2 marks)
b. Find its perimeter, including the straight edge. (2 marks)

Question 4 (4 marks)

Question 4 – Problem: the roundabout

A circular roundabout has radius 5 m. A circular grass island of radius 3 m is in the middle. The ring between the island and the outer edge is covered with tarmac.

a. Find the area of the tarmac, to 1 decimal place. (2 marks)

b. Tarmac costs £28 per m². Find the cost to the nearest £. (2 marks)

Question 5 (4 marks)

Question 5 – Problem: the bicycle journey

Zane's bicycle wheel has a diameter of 70 cm. He cycles 2.5 km to a friend's house.

a. Find the circumference of the wheel in metres, to 2 decimal places. (2 marks)
b. How many complete turns does the wheel make on the journey? (2 marks)