Perimeter (including circles)

Mana Maths

Start Tasks

1. A rectangle has sides 5 cm and 3 cm. Find the perimeter.

2. A square has side length 4 cm. Find the perimeter.

3. A triangle has sides 5 cm, 6 cm, and 7 cm. Find the perimeter.

4. A regular hexagon has side length 2 cm. Find the perimeter.

5. A rectangle has length 8 cm and width 2 cm. Find the perimeter.

6. A pentagon has sides 3 cm, 4 cm, 2 cm, 5 cm, and 2 cm. Find the perimeter.

7. A circle has diameter 10 cm. Find the circumference ($C = \pi d$).

8. A circle has radius 5 cm. Find the circumference ($C = 2\pi r$).

9. A semicircle has diameter 8 cm. Find its perimeter (straight edge plus arc).

Start Tasks – Answers

1. **16 cm**

2. **16 cm**

3. **18 cm**

4. **12 cm**

5. **20 cm**

6. **16 cm**

7. $10\pi \approx 31.42$ **cm**

8. $10\pi \approx 31.42$ **cm**

9. $8 + 4\pi \approx 20.57$ **cm**

Main Tasks

1. A rectangular garden is 12 m long and 8 m wide. Find the perimeter of fencing needed.

2. A circular pond has radius 7 m. Find the circumference to 2 decimal places.

3. A shape consists of a rectangle (6 cm by 4 cm) with a semicircle on one end. Find the total perimeter.

4. A quarter circle has radius 6 cm. Find its perimeter.

5. A composite shape has a rectangle (5 cm × 3 cm) attached to a rectangle (3 cm × 2 cm). Find the perimeter.

6. A circle has circumference 25 cm. Find the diameter to 1 decimal place.

7. A running track is a rectangle with two semicircles on opposite ends. The rectangle is 100 m by 50 m. Find the

8. Find the perimeter of a shape made from a square (5 cm side) with squares removed from each corner (1 cm side

9. A circle has radius 9 cm. Find the circumference using $C = 2\pi r$ to 1 decimal place

Main Tasks – Answers

1. **40 m**

2. $14\pi \approx 43.98$ **m**

3. $16 + 2\pi \approx 22.28$ **cm**

4. $12 + 3\pi \approx 21.42$ **cm**

5. **22 cm**

6. ≈ 7.96 **cm**

7. $250 + 50\pi \approx 407.08$ **m**

8. **20 cm**

9. $18\pi \approx 56.55$ **cm**

Challenge Tasks

1. A field is bounded by three sides of a rectangle (15 m by 10 m) and a semicircle on the fourth side (width 10 m). Find the perimeter of the

2. Two circles with radius 5 cm and 3 cm are placed side by side touching. What is the total circumference of both circles?

3. A composite shape has a square (8 cm side) with four quarter circles at each corner (radius 2 cm) added outward. Find the perimeter

4. A shape has perimeter equal to its area (numerically). If it's a rectangle with sides x and 5, find x.

5. Find the perimeter of an irregular hexagon with sides: 4 cm, 3 cm, 5 cm, 2 cm, 6 cm, 2 cm.

6. A sector of a circle has radius 10 cm and central angle 60°. Find its perimeter (two radii plus arc).

7. A shape is formed from three sides of a rectangle (12 m by 6 m) and a semicircle (diameter 6 m). Find the perimeter

8. Two concentric circles have radii 8 cm and 5 cm. Find the difference in their circumferences.

9. A complex shape consists of a rectangle (10 cm × 6 cm) with semicircles attached to opposite sides (widths 10

Challenge Tasks – Answers

1. $35 + 5\pi \approx 50.71$ **m**

2. $16\pi \approx 50.27$ **cm**

3. $32 + 8\pi \approx 57.13$ **cm**

4. $x = 7.5$

5. **22 cm**

6. $20 + \frac{10\pi}{3} \approx 30.47$ **cm**

7. $30 + 3\pi \approx 39.42$ **m**

8. $3\pi \approx 9.42$ **cm**

9. $32 + 8\pi \approx 57.13$ **cm**