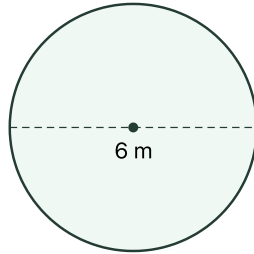


Circumference of a Circle Practice

Compare your reasoning, not just the final result. Equivalent correct methods are welcome.

Public practice with published answers. This is not a full-topic readiness assessment.

1. A circle has diameter 6 m. Find its circumference exactly and using $\pi \approx 3.14$.



Drawing not to scale

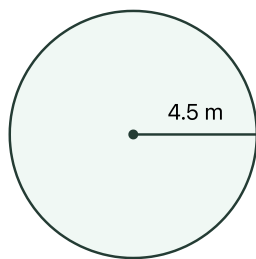
Diameter 6 m

Worked solution 1: 6π m, approximately 18.84 m.

1. $C = \pi d = 6\pi$ m.

2. $6 \times 3.14 = 18.84$ m.

2. A circular pond has radius 4.5 m. Find its circumference in terms of π and using 3.14.



Drawing not to scale

Pond radius

Worked solution 2: 9π m, approximately 28.26 m.

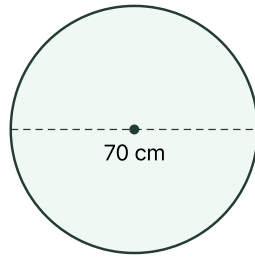
1. Diameter = $2 \times 4.5 = 9$ m.
2. $C = \pi \times 9 = 9\pi$ m.
3. Approximation: $9 \times 3.14 = 28.26$ m.

3. A circle has circumference 37.68 cm, calculated using $\pi \approx 3.14$. Recover its diameter and radius.

Worked solution 3: Diameter 12 cm; radius 6 cm.

1. $d = C \div \pi = 37.68 \div 3.14 = 12$ cm.
2. $r = d \div 2 = 6$ cm.
3. Check: $3.14 \times 12 = 37.68$ cm.

4. A bicycle wheel has diameter 70 cm. How far does it travel in 20 complete revolutions without slipping? Use $\pi \approx 3.14$ and give the answer in metres.



Drawing not to scale

Wheel diameter

Worked solution 4: 43.96 m.

1. One revolution travels one circumference: $3.14 \times 70 = 219.8$ cm.
2. Twenty revolutions: $219.8 \times 20 = 4396$ cm.
3. Convert centimetres to metres: $4396 \div 100 = 43.96$ m.

5. A semicircular garden has radius 7 m. Find its complete perimeter, including the straight edge. Give an exact answer and use 3.14 for an estimate.

Worked solution 5: $7\pi + 14$ m, approximately 35.98 m.

1. The curved boundary is half a circumference: $(2\pi \times 7) \div 2 = 7\pi$ m.
2. The straight boundary is the diameter: 14 m.
3. Total perimeter = $7\pi + 14$ m $\approx 21.98 + 14 = 35.98$ m.

6. A running track has two straight sections of 40 m joined by two semicircular ends of radius 10 m. Sketch the track and find the distance for 3 laps using $\pi \approx 3.14$.

Worked solution 6: 428.4 m.

1. The two semicircular ends together make one full circle.
2. One lap = $2 \times 40 + 2\pi \times 10 = 80 + 20\pi$ m.
3. Using 3.14 gives 142.8 m per lap.
4. Three laps = $3 \times 142.8 = 428.4$ m.