

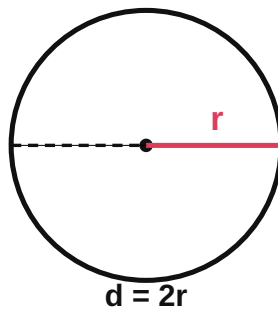
Boost Free Lessons - Year 8 Maths

Lesson 15: Circumference of a Circle

Name: _____ Grade: _____ Date: _____

Worked Example 1

Find the circumference of a circle with a radius of 7 cm. Use $\pi \approx 3.14$.



1. When you know the radius, use $C = 2\pi r$.
2. Substitute the radius: $C = 2 \times 3.14 \times 7$.
3. $2 \times 3.14 = 6.28$, and $6.28 \times 7 = 43.96$.

$C \approx 44.0$ cm

Worked Example 2

A circle has a diameter of 10 m. Find its circumference.

1. When you know the diameter, use $C = \pi d$. There is no 2, because the diameter is already twice the radius.
2. Substitute the diameter: $C = 3.14 \times 10$.
3. $3.14 \times 10 = 31.4$.

$C \approx 31.4$ m

Remember: $C = 2\pi r$ when you know the radius, or $C = \pi d$ when you know the diameter. The diameter is always twice the radius. Use $\pi \approx 3.14$ and round to 1 decimal place unless told otherwise.



Question 1: Find the circumference of each circle. Use $\pi \approx 3.14$ and round to 1 decimal place.

1. radius = 5 cm
2. radius = 3 m
3. diameter = 8 cm
4. diameter = 20 m
5. radius = 10 cm
6. diameter = 14 cm
7. radius = 2.5 m
8. diameter = 6 m



Question 2: Answer the following questions. Use $\pi \approx 3.14$.

1. A circle has a circumference of 31.4 cm. Find its diameter.

2. A circle has a circumference of 62.8 m. Find its radius.

3. A bicycle wheel has a diameter of 70 cm. How far does it travel in one full turn?

4. Find the perimeter of a semicircle with a diameter of 12 cm, including the straight edge.

5. A circular pond has a radius of 4 m. A path runs right around the edge. Find its length.

6. A circle has a radius of 9 cm. Find its circumference.



Question 3: Answer the following questions. Use $\pi \approx 3.14$.

1. A round table has a diameter of 1.5 m. Find the length of ribbon needed to go around the edge.
2. A wheel has a radius of 35 cm. How far does it travel in 10 full turns? Give your answer in metres.
3. A circular running track has a radius of 50 m. How far is one lap?
4. A tree trunk has a circumference of 157 cm. Find its diameter.
5. A clock face has a diameter of 24 cm. How far does the tip of the minute hand travel in one hour?





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Answers: Circumference of a Circle

Question 1

- | | |
|------------|------------|
| 1. 31.4 cm | 5. 62.8 cm |
| 2. 18.8 m | 6. 44.0 cm |
| 3. 25.1 cm | 7. 15.7 m |
| 4. 62.8 m | 8. 18.8 m |

Question 2

- | | |
|-------------|------------|
| 1. 10 cm | 4. 30.8 cm |
| 2. 10 m | 5. 25.1 m |
| 3. 219.8 cm | 6. 56.5 cm |

Question 3

1. 4.71 m
2. 21.98 m
3. 314 m
4. 50 cm
5. 75.4 cm (the minute hand is the radius, 12 cm)

