

Perimeter (including circles and composite shapes)



Calculate perimeters of polygons, circles, and composite shapes

Name _____

Date _____

Show your working

Use the correct formulas and show all steps. For circles, use $\pi \approx 3.14$. Include units in your answer.

Worked example Find the perimeter of a rectangle 5 cm by 3 cm.

$$\text{Perimeter of rectangle} = 2(\text{length} + \text{width}) = 2(5 + 3) = 2(8) = 16 \text{ cm}$$

1. Find the perimeter of a square with side 4 cm.

2. Find the perimeter of a rectangle 6 cm by 2 cm.

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

4. Find the perimeter of a regular hexagon with side 3 cm.

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

6. Find the circumference of a circle with diameter 10 cm. ($C = \pi d$)

7. Find the circumference of a circle with radius 5 cm. ($C = 2\pi r$)

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

9. A quarter circle has radius 6 cm. Find its perimeter (two radii + arc).

10. A rectangle is 10 cm by 4 cm. Find the perimeter.

11. Find the circumference of a circle with diameter 14 cm.

12. A regular octagon has side 2.5 cm. Find the perimeter.

Perimeter (including circles and composite shapes) –

Page 2



Name _____

Date _____

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

14. A rectangular garden is 12 m long and 8 m wide. How much fencing is needed to enclose it?

15. Find the circumference of a circle with radius 7 cm.

16. A shape is formed from three sides of a rectangle (8 cm by 5 cm) and a semicircle (diameter 5 cm). Find the perimeter.

17. Find the perimeter of a shape made from a square (4 cm side) with smaller squares removed from the corners.

18. A circle has circumference 30 cm. Find the diameter.

19. A running track is a rectangle 100 m by 50 m with semicircles on the ends (diameter 50 m). Find the total perimeter.

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

21. Find the perimeter of an equilateral triangle with side 9 cm.

22. A rectangle is 15 cm by 7 cm. Find the perimeter.

23. Find the circumference of a circle with diameter 20 cm.

24. A semicircle has radius 6 cm. Find its perimeter.

25. Find the perimeter of a trapezoid with parallel sides 5 cm and 8 cm, and non-parallel sides 4 cm each.

26. A composite shape has a rectangle (8 cm $\times$ 3 cm) with a quarter circle (radius 3 cm) attached. Find the perimeter.

27. Find the circumference of a circle with radius 4 cm.

