

Class: 7

Subject: Mathematics

Topic: Perimeter will perimeter and Area

No. of Questions: 20

Duration: 60 Min

Maximum Marks: 60

1. The area of a rectangular sheet is 500 cm^2 . If the length of the sheet is 25 cm, what is its width?
- A. 5 cm
 - B. 15 cm
 - C. 20 cm
 - D. 10 cm

Ans. C (Let width be w . So $50 \cdot w = 500$ or $w = 20$)

2. If the area of rectangle increases from 2 cm^2 to 4 cm^2 the perimeter will
- A. increase
 - B. remains same
 - C. decrease
 - D. None of these

Ans. A (As the perimeter has been increased, this means that the length or breadth or both of them have been increased which increased the area)

3. The area of a square whose perimeter is 4 m
- A. 1 m^2
 - B. 2 m^2
 - C. None of these
 - D. 3 m^2

Ans. A (Perimeter of square is $4a$ which is 4, i.e. the side length $a = 1$. Area is a^2 so its 1 m^2)

4. Which figure encloses more area: a square of side 2 cm; a rectangle of side 3 cm and 2 cm; An equilateral triangle of side 4 cm
- A. triangle
 - B. square
 - C. rectangle
 - D. None of these

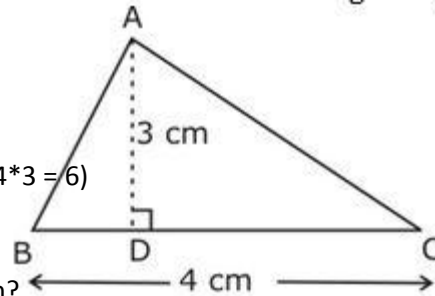
Ans. C (Rectangle has area 6, square has 4 and triangle has $4^2 \sqrt{3} / 4$ (3) so max is 6)

5. The area of parallelogram is
- A. base \times height
 - B. base \times base
 - C. base + height
 - D. height \times height
- Ans. A (Fact)

6. Find the area of following triangle:

- A. 3 cm^2
- B. 4 cm^2
- C. 5 cm^2
- D. 6 cm^2

Ans. D (Area of triangle is $\frac{1}{2} \times \text{base} \times \text{height}$ so it will be $\frac{1}{2} \times 4 \times 3 = 6$)



7. What is the circumference of a circle of diameter 10cm?

- A. 35 cm
- B. 31.4 cm
- C. 30 cm
- D. None of these

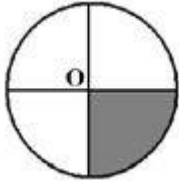
Ans. B (Circumference is $\pi \times D$, So $3.14 \times 10 = 31.4$)

8. The perimeter of circle is its
- A. area
 - B. radius
 - C. diameter

D. circumference

Ans. D (Fact)

9. If the area of circle is 44 cm^2 , the area of shaded portion will be



A. 44 cm^2

B. 11 cm^2

C. 22 cm^2

D. 33 cm^2

Ans. B (Clearly shaded region is quarter of a circle, so it's 11 cm^2)

10. The length and breadth of a rectangular field is 10 cm and 6 cm respectively. Find the perimeter of the field.

A. 28 cm

B. 20 cm

C. 24 cm

D. 32 cm

Ans. D (Perimeter of rectangle is $2l + 2b = 2*10 + 2*6 = 32$)

11. _____ is a quantity expressing the two-dimensional size of a defined part of a surface, typically a region bounded by a closed curve.

A. Area

B. None of these

C. Volume

D. Perimeter

Ans. A (Fact)

12. If we cut a parallelogram along one of its diagonals, we obtain two triangles. These triangles are equal in area because _____.

- A. they are equal
- B. they are not congruent
- C. they are congruent
- D. they are similar

Ans. C (Fact)

13. The diameter of a circle is

- A. None of these
- B. $2r$
- C. $2\pi r$
- D. r^2

Ans. B (fact)

14. The circumference of two circles are in the ratio 2:3. The ratio of their areas is

- A. It is 5:9
- B. It is 4:5
- C. It is 4:9
- D. It is 9:4

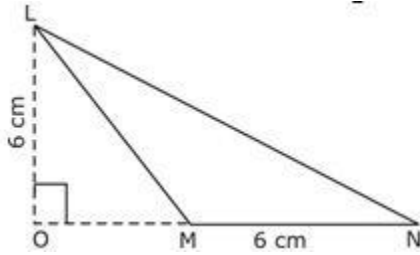
Ans. C (Area is proportional to r^2 whereas circumference is proportional to r . So it's 4:9)

15. On increasing the diameter of circle by 40%, its area will be increased by

- A. 10%
- B. 85%
- C. 96%
- D. None of these

Ans. D (Let r be radius so area will be proportional to r^2 , now if D increased by 40% so will radius so new area will be proportional to $(1.4r)^2 = 1.96 r$ i.e. increase is 96%)

16. Find the area of the triangle:



- A. 16 cm^2
- B. 14 cm^2
- C. None of these
- D. 18 cm^2

Ans. D (Area will be $\frac{1}{2} * 6 * 6 = 18$)

17. A steel wire when bent in the form of a square, encloses an area of 121 sq. cm . The same wire is bent in the form of a circle. Find the area of the circle.

- A. 141 cm^2
- B. 154 cm^2
- C. 121 cm^2
- D. None of these

Ans. B (Area is 121 so side lengths is 11, i.e. length of wire is 44 cm (perimeter) now this wire will form the circle i.e. length of wire will be circumference now. So $44 = 2\pi * r$, $r = 7$, area of circle is $\pi * r^2$ so $22/7 * 7 * 7 = 154$)

18. If the perimeter of a semicircular protractor is 36 cm, find the diameter.

- A. None of these
- B. 72
- C. $72/\pi$
- D. $36/\pi$

Ans. D (Perimeter of protector is $2r + \pi r$ or $r(2 + \pi) = 36$)

$$R = 36 / (2 + \pi)$$

$$2r = d = 72 / (2 + \pi)$$

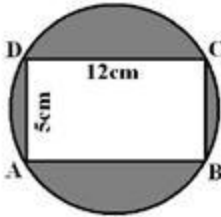
19. A bicycle wheel makes 5000 revolutions in moving 11 km. Find the diameter of the wheel.

- A. 70 cm
- B. 140 cm
- C. None of these
- D. 35 cm

Ans. A ($5000 * 22/7 * D = 11\ 000\ M$)

$$D = 7/10\ M\ \text{or}\ 70\ \text{cm}$$

20. Find the area of the shaded region in the below figure. Take $\pi = 3.14$



- A. $75\ \text{cm}^2$
- B. $70\ \text{cm}^2$
- C. $72\ \text{cm}^2$
- D. $80\ \text{cm}^2$

Ans. C (Diameter is diagonal of rectangle. i.e. 13 is diameter.)

$$\text{Area of rectangle} = 12 * 5 = 60\ \text{cm}^2 \dots\dots (1)$$

$$\text{Area of circle} = 3.14 * 6.5^2 \dots\dots (2)$$

$$\text{Area of shaded region is } (2) - (1) = 72\ \text{cm}^2\ \text{approx.}$$