KINETICS
We Nurture The Future
IIT-JEE | Medical | Foundations

Perimeter and Area

Question 1.
Find the area of a circle having radius 14 cm.
(a) 196 cm^2
(b) 308 cm^2
(c) 616 cm^2
(d) None of these

Answer: (c) 616 cm^2
Area of a circle $\pi r^2 = \frac{22}{7} \times 14 \times 14 = 616\ cm^2$.

Question 2.
Find the breadth of a rectangular plot of land, if its area is 440 m^2 and the length is 22 m.
(a) 20 m
(b) 5 m
(c) 15 m
(d) 10 m

Answer: (a) 20 m

Question 3.
One of the sides and the corresponding height of a parallelogram are 4 cm and 3 cm respectively. Find the area of the parallelogram.
(a) 12 cm^2
(b) 7 cm^2
(c) 6 cm^2
(d) None of these

Answer: (a) 12 cm^2
Area of a parallelogram = side × height.

Question 4.
Find the area of a verandah 2.25 m wide constructed outside a room 5.5 m long and 4 m wide.
(a) 36sq.m
(b) 63sq.m
(c) 64sq.m
(d) 84sq.m

Answer: (b) 63sq.m

Question 5.
Find the cost of lamination in the above question at the rate of Rs. 2.00 per cm^2.
(a) Rs. 1200
(b) Rs. 2200
(c) Rs. 2400
(d) None of these

Answer: (c) Rs. 2400
For lamination, area of frame is considered and product of area and cost is found.

Question 6.
When the circumference and area of a circle are numerically equal, what is the diameter numerically equal to?
(a) Area
(b) Circumference
(c) 271
(d) 4

Answer: (d) 4

Question 7.
A gardener wants to fence a circular garden of diameter 14 m. Find the length of the rope he needs to purchase.
(a) 44 m
(b) 28 m
(c) 88 m
(d) None of these

Answer: (a) 44 m
Fence means circumference of the circle. First calculate radius and then find circumference of the given circular garden.

Question 8.
If the area of a circle is 2464 m^2, find its diameter,
(a) 56m
(b) 154m
(c) 176m
(d) 206m

Answer: (a) 56m

Question 9.
What is the circumference of a circle of radius 7 cm ?
(a) 44 cm
(b) 49 cm
(c) 14 cm
(d) None of these

Answer: (a) 44 cm
Circumference of a circle = 2πr, $2 \times \frac{22}{7} \times r = 44$ cm.

Question 10.
The height in the area of a triangle
(a) $\frac{(2 \times area)}{base}$
(b) $\frac{base}{(2 \times area)}$
(c) $\frac{(2 \times area)}{height}$
(d) None of these

Answer: (a) $\frac{(2 \times area)}{base}$

Question 11.
Ayush made his picture on a rectangular sheet of length 60 cm and breadth 20 cm wide. Area of picture is :
(a) 1200 cm^2
(b) 1250 cm^2
(c) 1100 cm^2
(d) None of these

Answer: (a) 1200 cm^2
Area of rectangular picture is length × breadth.

Question 12.
A rectangular garden is 65 cm long and 50 cm wide. Two cross paths each 2 m wide are to be constructed parallel to the sides. If these paths pass through the centre of the garden, find the cost of constructing the paths at the rate Rs. 69 per m^2.
(a) Rs. 15000
(b) Rs. 15594
(c) Rs. 15500
(d) None of these

Answer: (b) Rs. 15594

Question 13.
If a side of a square is 4 cm then its perimeter is :
(a) 16 cm
(b) 8 cm
(c) 12 cm
(d) None of these

Answer: (a) 16 cm
Perimetre of square is 4 × side

Question 14.
The area of triangle is
(a) $(\frac{1}{2})$ × base × height
(b) $(\frac{1}{2})$ × (base + height)
(c) base (d) height
(d) None of these

Answer: (a) $(\frac{1}{2})$ × base × height

Question 15.
The length and the breadth of a rectangular piece of land are S00 m and 300 m. Find the cost of the land if 1 m^2 of the land costs Rs. 10000.
(a) Rs. 15,00,00,00
(b) Rs. 1500,000

(c) Rs. 1500,00
(d) None of these

Answer: (a) Rs. 15,00,00,00
Area of a rectangular piece is multiplied by cost of land.

Question 16.
A wire bent in the form of a circle of radius 42 cm is again bent in the form of a square. What is the ratio of the regions enclosed by the circle and the square?
(a) 11:12
(b) 21:33
(c) 22:33
(d) 14:11

Answer: (d) 14:11

Question 17.
Find the cost of frame in the above question at the rate of Rs. 3.00 per cm.
(a) Rs. 480
(b) Rs. 3600
(c) Rs. 240
(d) None of these

Answer: (a) Rs. 480
For frame cost perimeter is multiplied by 3.

Question 18.
Find radius of a circle of diameter 9.8 m.
(a) 4.9 m
(b) 19.6 m
(c) 10 m
(d) None of these

Answer: (a) 4.9 m
Radius of a circle is half of its diametre.

Question 19.
What is the circumference of a circle of diameter 10 cm?
(a) 35 cm
(b) 30 cm

(c) 31.4 cm
(d) None of these

Answer: (c) 31.4 cm

Question 20.
In the above questions, find the perimeter of the rectangular sheet.
(a) 80 cm
(b) 100 cm
(c) 90 cm
(d) None of these

Answer: (c) 90 cm
Perimeter = 2(length + breadth).

Question 21.
The length and breadth of a rectangular hall in a model are 0.4 m and 30 cmrespectively. What is the distance between the opposite corners of the wall in the model?
(a) 34.16m
(b) 50m
(c) 34.16 cm
(d) 50cm

Answer: (d) 50cm

Question 22.
The perimeter of a rectangular sheet is 100 cm. If the length is 35 cm, find its breadth.
(a) 35 cm
(b) $\frac{100}{35}$
(c) 15 cm
(d) None of these

Answer: (c) 15 cm
2(l + b) = 100, 2l + 2b = 100, 2 × 35 + 2b = 100, 2b = 30 ÷ 2 = 15 cm.

Question 23.
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) equilateral triangle
(b) square

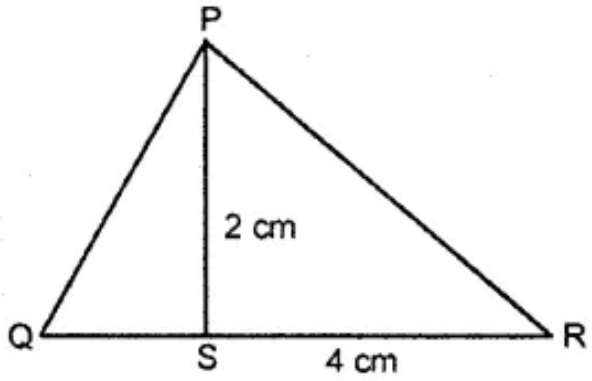
(c) triangle
(d) None of these

Answer: (a) equilateral triangle

Question 24.
In the above question, what will be the perimeter of the picture frame ?
(a) 80 cm
(b) 160 cm
(c) 120 cm
(d) None of these

Answer: (b) 160 cm
Perimeter of a rectangular picture is 2(length + breadth).

Question 25.
Find the area of the following triangle :



(a) 6 cm^2
(b) 4 cm^2
(c) 16 cm^2
(d) None of these

Answer: (b) 4 cm^2
Area of triangle $\sum$ = base × altitude.

Question 26.
If we cut a square along one of its diagonals, two triangles are obtained. Area of each triangle obtained = _____.

(a) $(\frac{1}{2})$×Area of the square
(b) $(\frac{1}{4})$×Area of the square
(c) Area of the square
(d) None of these

Answer: (a) $(\frac{1}{2})$×Area of the square

Question 27.
Find the perimeter of a triangle with sides 4 cm, 6 cm and 10 cm
(a) 20 cm
(b) 24 cm
(c) 9 cm
(d) 18 cm

Answer: (a) 20 cm

Question 28.
The area of a rectangular sheet is 500 cm^2. If the length of the sheet is 25 cm. What is its width ?
(a) 20 cm
(b) 25 cm
(c) 50 cm
(d) None of these

Answer: (a) 20 cm
Breadth of a rectangle is area ÷ length.

Question 29.
The base in the area of parallelogram is
(a) $\frac{area}{height}$
(b) area × base
(c) $\frac{area}{base}$
(d) area × height

Answer: (a) $\frac{area}{height}$

Question 30.
Find the area of a square park whose perimeter is 320 cm ?
(a) 6400 m^2

(b) 6000 m^2
(c) 1280 m^2
(d) None of these

Answer: (a) 6400 m^2
Side of square 320 ÷ 4 = 80, Area of square is 80 × 80 = 6400 m^2.

Question 31.
The area of parallelogram is
(a) height × height
(b) base × height
(c) base + height
(d) base × base

Answer: (b) base × height

Question 32.
If a side of a square is 5 cm then its area is :
(a) 20 cm^2
(b) 25 cm^2
(c) 10 cm^2
(d) None of these

Answer: (b) 25 cm^2
Area of square is side × side.

Question 33.
Find the area of a triangle with a base of 20 cm and a height of 30 cm
(a) 300
(b) 100
(c) 400
(d) 600

Answer: (a) 300

Question 34.
Find the height x, if the area of the parallelogram is 24 cm^2 and the base is 4 cm.
(a) 4 cm

(b) 6 cm
(c) 5 cm
(d) None of these

Answer: (b) 6 cm
Height of a parallelogram = area ÷ side.

Question 35.
The area of a square whose perimeter is 4 m
(a) 2 m^2
(b) 1 m^2
(c) 3 m^2
(d) None of these

Answer: (b) 1 m^2

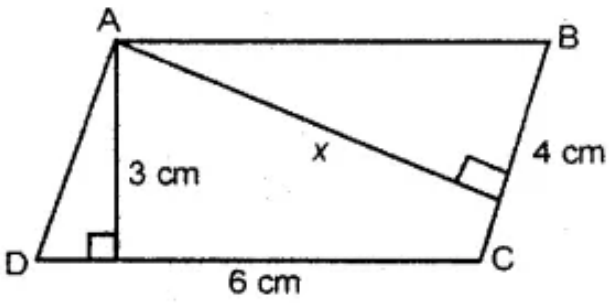
Question 36.
Perimeter of a square field is 400 cm, find its one side.
(a) 300 cm
(b) 200 cm
(c) 100 cm
(d) None of these

Answer: (c) 100 cm
Side of square = perimeter ÷ four.

Question 37.
The length and the breadth of a rectangular piece of land are 400 m and 250 m respectively. What is the cost of the land at Rs. 1000 per square metre?
(a) Rs.10 lakhs
(b) Rs.1 crore
(c) Rs.10 crores
(d) Rs.10 thousands

Answer: (c) Rs.10 crores

Question 38.
Find x in the given figure :



(a) 4.5 cm
(b) 6 cm
(c) 2 cm
(d) None of these

Answer: (a) 4.5 cm
$x(6 \times 3) \div 4$.

Match the following :

1. Perimeter of square	(a) $2(l + b)$
2. Area of square	(b) $4 \times$ side
3. Perimeter of rectangle	(c) $l \times b$
4. Area of a rectangle	(d) a^2

Answer:

1. Perimeter of square	(b) $4 \times$ side
2. Area of square	(d) a^2
3. Perimeter of rectangle	(a) $2(l + b)$
4. Area of a rectangle	(c) $l \times b$

Match the following :

1. Radius of circle	(a) Base × Height
2. Area of triangle	(b) πr^2
3. Area of a ||gm	(c) Half of its diametre
4. Area of circle	(d) $\frac{1}{2}$ × Base × Altitude

Answer:

1. Radius of circle	(c) Half of its diametre
2. Area of triangle	(d) $\frac{1}{2}$ × Base × Altitude
3. Area of a ||gm	(a) Base × Height
4. Area of circle	(b) πr^2

Match the following:

1. 1 cm	(a) 100 cm
2. 1 m	(b) 100 mm^2
3. 1 cm^2	(c) 100,00 cm^2
4. 1 m^2	(d) 10 mm

Answer:

1. 1 cm	(d) 10 mm
2. 1 m	(a) 100 cm
3. 1 cm^2	(b) 100 mm^2
4. 1 m^2	(c) 100,00 cm^2

State whether the given statements are True or False.

Question 1.
Radius is twice of diametre.

Answer: False

Question 2.
Perimeter of a square = a^2.

Answer: False

Question 3.
Area of circle = πr^2.

Answer: True

Question 4.
Perimeter of rectangle = 2(l + b)

Answer: True

Fill in the blanks.

1. The distance around a circular region is known as its ……. .

Answer: circumference

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2. 1 hectare = ……..

Answer: 100,00 m^2

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3. Area of a circle = …… × r^2

Answer: π

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4. Area of a rectangle = …….. × Breadth

Answer: Length

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5. …… is the part of plane occupied by the closed figure.

Answer: Area

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6. Perimetre of a rectangle = 2 (Length + ……)

Answer: Breadth

7. Area of a ||gm = Base × ……..

Answer: Height

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8. …….. is the distance around a closed figure.

Answer: Perimeter

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9. Area of a square = Side × ……..

Answer: Side

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10. Perimetre of a square = 4 × ……..

Answer: Side

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11. Circumference of a circle = 2 × π × …….

Answer: r
