MATHS

BOOKS - RD SHARMA MATHS (ENGLISH)

MENSURATION-2

Others

1. Find the circumference of a circle of radius 14 cm.

2. Find the circumference of a circle whose diameter is 42 cm.

3. Find the diameter of a circle whose circumference is 15.7 cm.

4. The ratio of the radii of two circles is $2:5$. What is the ratio of their circumference?

5. A piece of wire in the form of a rectangle 8.9 cm long and 5.4 cm broad is reshaped and bent into the form of a circle. Find the radius of the circle.

6. The diameter of a wheel of a cycle is 70 cm. It moves slowly along a road. How far will it go in 24 complete revolutions?

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7. The diameter of the wheel of a car is 77 cm. How many revolutions will it make to travel 121 km?

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8. There is a circular pond and foot-path runs along its boundary. A man walks around it, exactly once, keeping close to the edge. If his step is 66 cm long and he takes exactly 400 steps to go around the pond, what is the diameter of the pond?

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9. The circumference of a circle exceeds the diameter by 30 cm. Find the radius of the

circle.

10. A race track is in the form of a ring whose inner circumference is 352 m, and the outer circumference is 396 m. Find the width of the track.

11. The inner circumference if a circular track is 220m. The track is 7m wide everywhere. Calculate the cost of putting up a fence along the outer circle at the rate of Rs. 2 per metre. $\left(Use\pi\frac{22}{7}\right)$

12. Find the circumference of a circle whose radius is a)14 cm (b) 10 m (c)4 km

13. Find the circumference of a circle whose diameter is (a)7 cm   (b) 4.2 cm (c)11.2 km

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14. Find the radius of a circle whose circumference is (a)52.8 cm   (b) 42 cm (c)6.6 km

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15. Find the diameter of a circle whose circumference is (a)12.56 cm (b) 88 m (c)11.0 km

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16. The ratio of the radii of two circles is $3:2$. What is the ratio of their circumferences?

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17. A wire in the form of a rectangle 18.7 cm long and 14.3 cm wide is reshaped and bent into the form of a circle. Find the radius of the circle so formed.

18. A piece of wire is bent in the shape of an equilateral triangle of each side 6.6 cm. It is re-bent to form a circular ring. What is the diameter of the ring?

19. The diameter of a wheel of a car is 63 cm. Find the distance travelled by the car during the period, the wheel makes 1000 revolutions.

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20. The diameter of a wheel of a car is 98 cm. How many revolutions will it make to travel 6160 metres.

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21. The moon is about 384400 km from the earth and its path around the earth is nearly circular. Find the circumference of the path described by the moon in lunar month.

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22. How long will John take to make a round of a circular field of radius 21 m cycling at the speed of 8 km/hr?

23. The hour and minute hands of a clock are 4 cm and 6 cm long respectively. Find the sum of the distances travelled by their tips in 2 days.

24. A rhombus has the same perimeter as the circumference of a circle. If the side of the rhombus is 2.2 m. find the radius of the circle.

25. A wire is looped in the form of a circle of radius 28 cm. It is re-bent into a square form. Determine the length of the side of the square.

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

27. A boy is cycling such that the wheels of the cycle are making 140 revolutions per minute. If the diameter of the wheel is 60 cm, calculate the speed per hour with which the boy is cycling.

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28. The diameter of the driving wheel of a bus is 140 cm. How many revolutions per minute

must the wheel make in order to keep a speed

of 66 km per hour?

29. A water sprinkler in a lawn sprays water as

far as 7 m in all directions. Find the length of

the outer edge of wet grass.

30. A well of diameter 150 cm has a stone parapet around it. If the length of the outer edge of the parapet is 660 cm, then find the width of the parapet.

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31. An ox in a kolhu (an oil processing apparatus) is tethered to a rope 3 m long. How much distance does it cover in 14 rounds?

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32. Find the area of a circle of radius 4.2 cm

33. Find the area of a circle of diameter 7 cm.

34. The circumference of a circle is 44 cm. Find its area.

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35. The area of a circle is 616 cm^2. Find the radius of the circle.

36. A copper wire, when bent in the form of a square, encloses an area of 484 cm^2. If the same wire is bent in the form of a circle, find the area enclosed by it. (Use $\pi = \dfrac{22}{7}$).

37. A circular grassy plot of land, 42 m in diameter, has a path 3.5 m wide running round it on the outside. Find the cost of gravelling the path at Rs 4 per square metre.

38. A paper is in the form of a rectangle $ABCD$ in which $AB = 20\ cm$ and $BC = 14\ cm.$ A semicircular portion with BC

as diameter is cut off. Find the area of the remaining part.

39. Find the area of the shaded region given in Fig. 12.72, where ABCD is a square of side 14cm.

40. The circumferences of two circles are in the ratio $2:3.$ Find the ratio of their areas.

41. The areas of two circles are in the ratio $16:25.$ Find the ratio of their circumferences.

42. A square park has each side of 100 m. At each corner of the park, there is a flower bed in the form of a quadrant of radius 14 m as shown in Fig. 15.37. Find the area of the

remaining part of the park $(Use\ \pi = 22/7)$.

(FIGURE)

43. Four equal circles are described about the four corners of a square so that each touches two of the others as shown in Fig. 15.38. Find the area of the shaded region, each side of the square measuring 14 cm. (FIGURE)

44. A horse is placed for grazing inside a rectangular field 70 m by 52 m and is tethered to one corner by a rope 21 m long. On how much area can it graze?

45. $PQRS$ is a diameter of a circle of radius 6 cm. The lengths PQ, QR and RS are equal. Semi-circles are drawn on $PQ \, and \, QS$ as diameters as shown in Fig.17. Find the perimeter of the shaded region.

46. Find the area of a circle whose radius is

(a)7 cm   (b) 2.1 m (c)7 km

47. Find the area of a circle whose diameter is

(a)8.4 cm   (b) 5.6 m (c)7 km

48. The area of a circle is 154 cm^2. Find the radius of the circle.

49. Find the radius of a circle, if its area is (a) $4\pi\ cm^2$ (b) $55.\ 44\ m^2$ (c)$1.\ 54\ km^2$

50. The circumference of a circle is 3.14 m, find its area.

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51. If the area of a circle is $50.24\,m^2$, find its circumference.

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52. A horse is tied to a pole with 28 m long string. Find the area where the horse can graze. (Take$\pi = \dfrac{22}{7}$).

53. A steel wire when bent in the form of a square encloses an area of $121\,cm^2$. If the same wire is bent in the form of a circle, find the area of the circle.

54. A road which is 7 m wide surrounds a circular park whose circumference is 352 m. Find the area of road.

55. Prove that the area of a circular path of uniform width h surrounding a circular region of radius r is $\pi h(2r + h)$.

56. The perimeter of a circle is $4\pi r$ cm. What is the area of the circle?

57. A wire of 5024 m length is in the form of a square. It is cut and made a circle. Find the ratio of the area of the square to that of the circle.

58. The radius of a circle is 14 cm. Find the radius of the circle whose area is double of the area of the circle.

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59. The radius of one circular field is 20 m and that of another is 48 m. Find the radius of the third circular field whose area is equal to the sum of the areas of two fields.

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60. The radius of one circular field is 5 m and that of the other is 13 m. Find the radius of the circular field whose area is the difference of the areas of first and second field.

61. Two circles are drawn inside a big circle with diameters $\frac{2}{3}rd$ and $\frac{1}{3}rd$ of the diameter of the big circle as shown in Fig.18. Find the

area of the shaded portion, if the length of the diameter of the circle is 18 cm.

62. In Fig. 19, the radius of quarter circular plot taken is 2 m and radius of the flower bed is 2 m. Find the area of the remaining field.

63. Four equal circles, each of radius 5cm, touch each other as shown in Figure. Find the area included between them.

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64. The area of circle is 100 times the area of another circle. What is the ratio of their circumferences?

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65. The ratio of the perimeter (circumference) and diameter of a circle is

(a) π

(b) 2π

(c) $\dfrac{\pi}{2}$

(d) $\dfrac{\pi}{4}$

66. The ratio of the area and circumference of a circle of diameter d is

(a) d

(b) $\dfrac{d}{2}$

(c) $\dfrac{d}{4}$

(d) $2\,d$

67. The cost of fencing a circular garden of radius 21 m at Rs 10 per metre is

(a)Rs 1320

(b) Rs 132

(c)Rs 1200

(d) Rs 660

68. If the diameter of a circle is equal to the diagonal of a square, then the ratio of their areas is (a) $7:1$ (b) $1:1$ (c) $11:7$ (d) $22:7$

A. $7:1$

B. $1:1$

C. $11:7$

D. $22:7$

Answer: $11:7$

69. A circle is inscribed in a square of side 14 m. The ratio of the area of the circle and that of the square is (a)$\pi : 3$ (b) $\pi : 4$ (c)$\pi : 2$ (d) $\pi : 1$

70. How many times should a wheel of radius 7 m rotate to go around the perimeter of a rectangular field of length 60 m and breadth

50 m? (a)3   (b) 4

(c)5   (d) 6

71. The minute hand of a clock is 14 cm long. How far does the tip of the minute hand move in 60 minute? (a)22 cm (b) 44 cm (c)33 cm (d) 88 cm

72. The cost of fencing a semi-circular garden of radius 14 m at Rs 10 per metre is

(a)Rs 1080

(b) Rs 1020

(c)Rs 700

(d) Rs 720

73. The area of a square is equal to the area of a circle. The ratio between the side of the

square and the radius of the circle is (a) $\sqrt{\pi}:1$

(b) $1:\sqrt{\pi}$ (c) $1:\pi$ (d) $\pi:1$

74. If A is the area and C is the circumference of a circle, then its radius is

(a) $\dfrac{A}{C}$

(b) $\dfrac{2A}{C}$

(c) $\dfrac{3A}{C}$

(d) $\dfrac{4A}{C}$

75. The area of a circle of circumference C is

(a) $\dfrac{C^2}{4\pi}$

(b) $\dfrac{C^2}{2\pi}$

(c) $\dfrac{C^2}{\pi}$

(d) $\dfrac{4C^2}{\pi}$

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76. The circumference of a circle is 44 cm. Its area is

(a)$77\ cm^2$

(b) $154\ cm^2$

(c)$208\ cm^2$

(d) $144\ cm^2$

77. Each side of an equilateral triangle is equal to the radius of a circle whose area is $154\ cm^2$.

The area of the triangle is

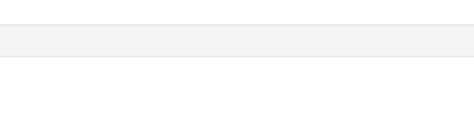(a)$\dfrac{7\sqrt{3}}{4}\ cm^2$

(b) $\dfrac{49\sqrt{3}}{2}\ cm^2$

(c) $\dfrac{49\sqrt{3}}{4}\ cm^2$

(d) $\dfrac{7\sqrt{3}}{2}\ cm^2$

78. The area of a circle is $9\pi\ cm^2$. Its circumference is

(a) $6\pi\ cm$

(b) $36\pi\ cm$

(c) $9\pi\ cm$

(d) $36\pi^2\ cm$

79. The area of a circle is increased by $22\ cm^2$ when its radius is increased by 1 cm. The original radius of the circle is (a)6 cm (b) 3 cm (c)4 cm (d) 3.5 cm

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80. The radii of two circles are in the ratio 2: 3. The ratio of their areas is

(a) 2:3

(b) 4:9

(c) 3:2

(d) 9:4

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81. The areas of two circles are in the ratio

$49 : 36$. The ratio of their circumference is (a)

$7 : 6$ (b) $6 : 7$ (c)$3 : 2$ (d) $2 : 3$

    A. $7 : 6$

    B. $6 : 7$

    C. $3 : 2$

D. $2:3$

Answer: null

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82. The circumferences of two circles are in the

ratio $3:4$. The ratio of their areas is

(a)$3:4$

(b) $4:3$

(c)9:16

(d) $16:9$

83. The difference between the circumference and radius of a circle is 37 cm. The area of the circle is

(a)111 cm^2

(b) 148 cm^2

(c)154 cm^2

(d) 285 cm^2