



## Eleventh Grade - Geometry

1) The radii of two circles are 19 cm and 9 cm respectively. Find the radius of the circle which has circumference equal to the sum of the circumferences of the two circles.

- 56?
- 67?
- 76?
- 26?

2) The radii of two circles are 8 cm and 6 cm respectively. Find the radius of the circle having area equal to the sum of the areas of the two circles.

- 5
- 6
- 10
- 7

3) A chord of a circle of radius 15 cm subtends an angle of  $60^\circ$  at the centre. Find the areas of the corresponding minor segments of the circle.

- 10.325
- 40.325
- 20.325
- 80.325

4) A horse is tied to a peg at one corner of a square shaped grass field of side 15 m by means of a 5 m long rope. Find the area of that part of the field in which the horse can graze.

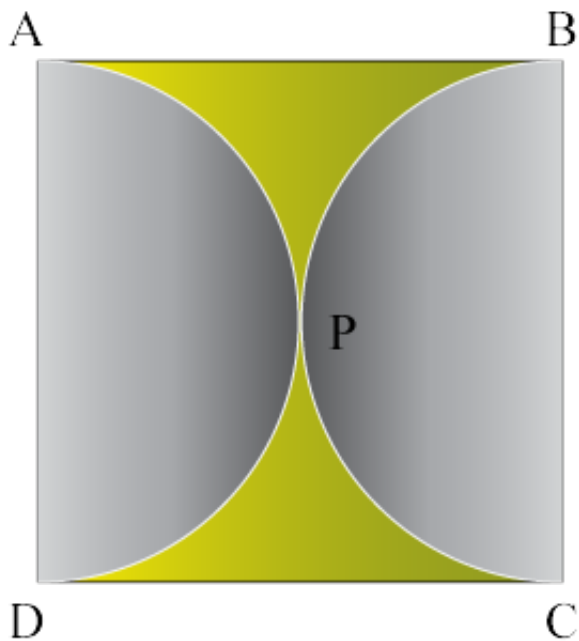
- 30.625
- 43.625
- 19.625
- 29.625



5) Find the area of the shaded region in the given figure, if radii of the two concentric circles with centre O are 7 cm and 14 cm respectively and angle  $AOC = 40^\circ$

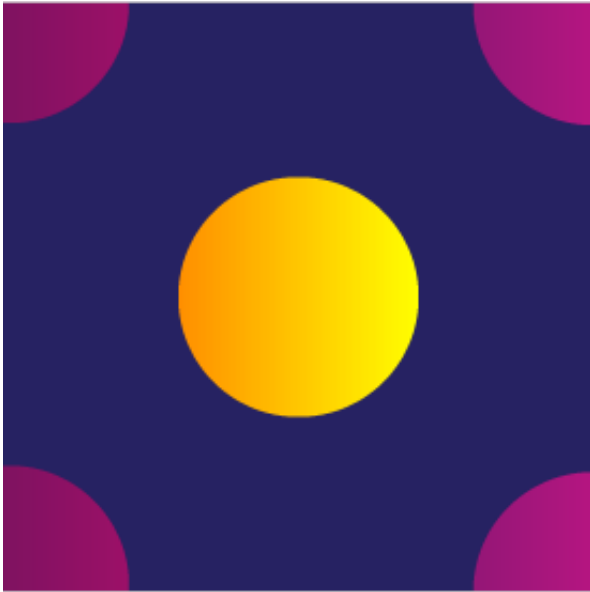
- 71.33
- 91.33
- 81.33
- 51.33

6) Find the area of the shaded region in the given figure, if ABCD is a square of side 14 cm and APD and BPC are semicircles.



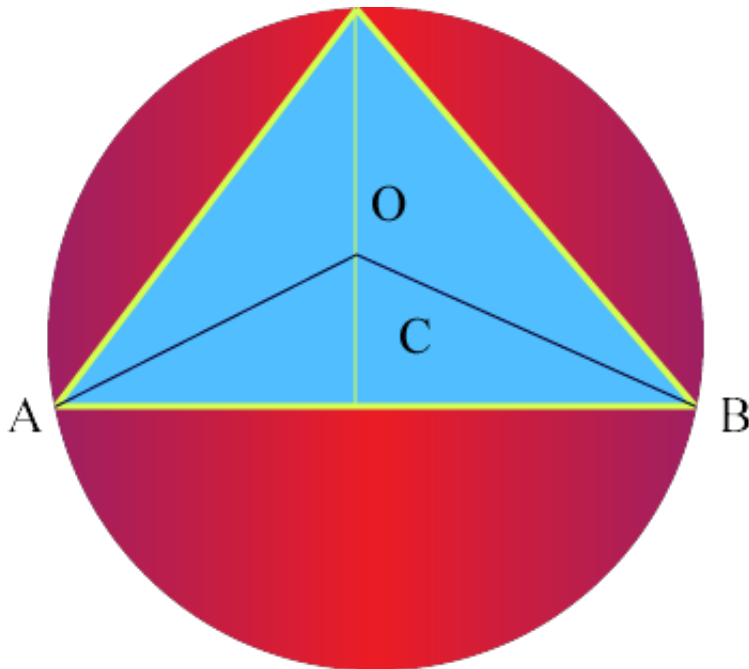
- 49
- 46
- 42
- 40

7) From each corner of a square of side 4 cm a quadrant of a circle of radius 1 cm is cut and also a circle of diameter 2 cm is cut as shown in the figure. Find the area of the remaining portion of the square.



- 71.33
- 51.33
- 22.28
- 81.33

8) In a circular table cover of radius 32 cm, a design is formed leaving an equilateral triangle ABC in the middle as shown in the figure. Find the area of the design (shaded region).

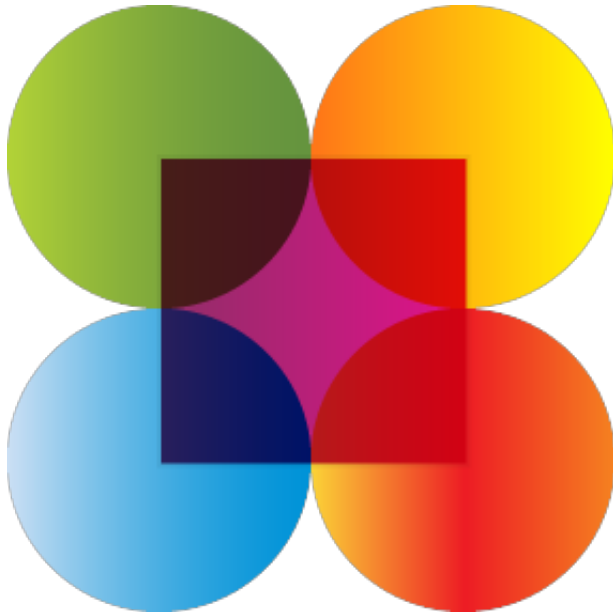


- 1673
- 1273
- 1373



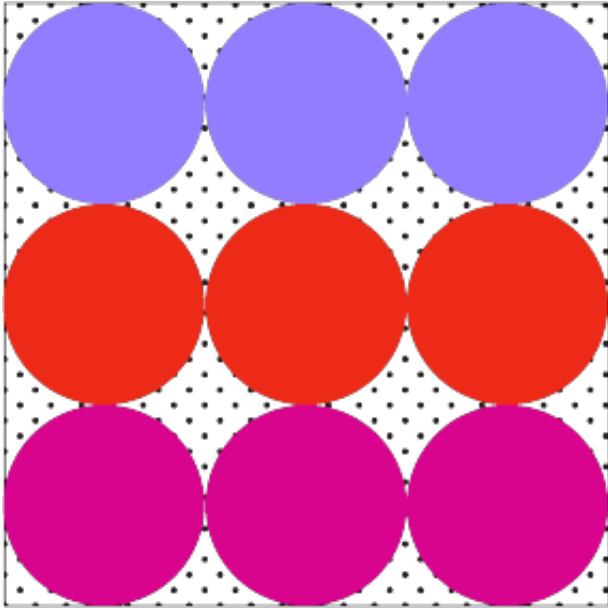
- 10?3

9) In the given figure, ABCD is a square of side 14 cm. With centers A, B, C and D, four circles are drawn such that each circle touch externally two of the remaining three circles. Find the area of the shaded region.



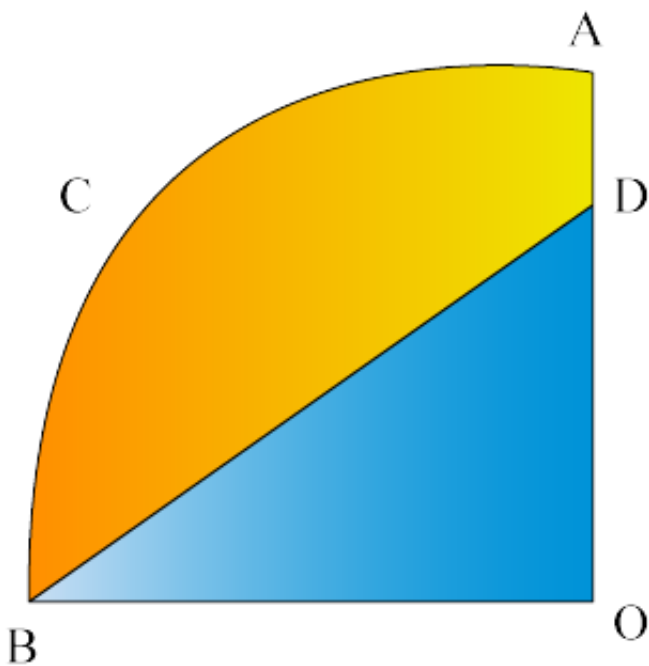
- 49
- 42
- 72
- 79

10) On a square handkerchief, nine circular designs each of radius 7 cm are made. Find the area of the remaining portion of the handkerchief.



- 398
- 348
- 318
- 378

11) In the given figure,  $OACB$  is a quadrant of a circle with center  $O$  and radius  $3.5$  cm. If  $OD = 2$  cm, find the area of the shaded region.



- 6.125
- 1.125



- 5.125
- 7.125

12) If the perimeter and the area of a circle are numerically equal, then the radius of the circle is

- 8
- 2
- 7
- 6

13) A brooch is made with silver wire in the form of a circle with diameter 35 mm. The wire is also used in making 5 diameters which divide the circle into 10 equal sectors. x Find:the total length of the silver wire required

- 215
- 285
- 225
- 275

14) To warn ships for underwater rocks, a lighthouse spreads a red coloured light over a sector of angle  $80^\circ$  to a distance of 16.5 km. Find the area of the sea over which the ships are warned.

- 199.97 sqkm
- 119.97 sqkm
- 189.97 sqkm
- 169.97 sqkm

15) 2 cubes each of volume  $64 \text{ cm}^3$  are joined end to end. Find the surface area of the resulting cuboid.

- 170
- 150
- 130
- 160



16) Jenna works at a retail shop. Yes, she still works there, even after all her thievery, but she will tell you it has nothing to do with her old man owning the joint. She still makes \$10 per hour, plus \$3 for each item she sells. How much does Jenna make in one hour if she sells 5 items during that hour.

- 25
- 23
- 29
- 27

17) A snack bar is having a sale on hamburgers. At 9:00AM, the snack bar has sold 28 hamburgers. At 12:00PM, the snack bar discovers that it has sold 103 hamburgers. What is the average rate of change between 9:00AM and 12:00PM?

- 30 hamburgers. / hr
- 45 hamburgers. / hr
- 25 hamburgers. / hr
- 34 hamburgers. / hr

18) Find the slope intercept form from the two given points (-2, 4) and (1, 2)

- $y = (-2/3)x + 8/3$
- $y = (-2/3)x + (-8/3)$
- $y = (2/3)x + 8/3$
- $y = (-2/3)x - 8/3$

19) Write the equation of the line that has a slope of  $-7/8$  and contains the point (4, 5/4)

- $(-7/8)x - (19/4)$
- $(7/8)x + (19/4)$
- $(-7/8)x + (19/4)$
- $(-7/8)x + (-19/4)$



20) Write the equation of the line that passes through the points (2, 1) and (1, 5)

- $y = 2x + 3$
- $y = 2x - 4$
- $y = -2x - 3$
- $y = 2x - 3$

21) Convert the equation  $y = \frac{2}{3}x + \frac{5}{9}$  to standard form.

- $9y + 6x = 5$
- $9x - 6y = 5$
- $9x + 6y = 5$
- $9y - 6x = 5$

22) Convert the equation  $y = ax + \frac{b}{c}$  to standard form

- $yc = cax - b$
- $yc = -cax - b$
- $yc = cax + b$
- $yc = -cax + b$

23) Convert point slope  $y - 3 = 5(x - 4)$  to slope intercept form.

- $y = 5x + 17$
- $y = -5x + 17$
- $y = -5x - 17$
- $y = 5x - 17$

24) Convert point slope  $y - 4 = 2(x - 3)$  to slope intercept form and find the value of m

- 2
- -5
- 3
- -1





25) Convert a slope intercept  $y = (5/4)x + 5$  to standard form.

- $-4y + 5x = -20$
- $y - x = 4$
- $4y - 5x = 20$
- $y - x = 5$

26) Convert a slope intercept  $y = (2/3)x - 4$  to standard form

- $y - x = -6$
- $-3y - 2x = -12$
- $3y - 2x = -12$
- $y + x = 8$

27) Find the distance between the points (3, ?4) and (5, 7)

- 19.18
- 16.18
- 11.18
- 17.18

28) Find the distance between the points (3, ?1) and (?2, 5)

- 2.8102
- 5.8102
- 6.8102
- 7.8102

29) What is the distance between (?1, 3) and (?8, ?4)?



- 3.899
- 7.899
- 5.899
- 9.899

30) Find  $k$  if the distance between  $(k, 0)$  and  $(0, 2k)$  is 10 units

- $\pm 7.472$
- $\pm 5.472$
- $\pm 4.472$
- $\pm 6.472$