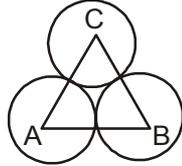
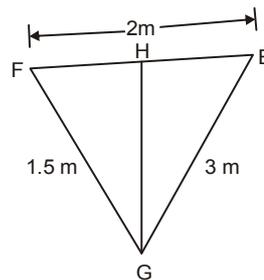
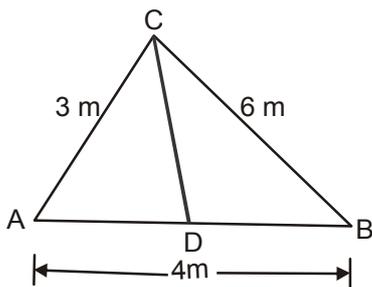


1. If $\sqrt[3]{\frac{x}{729}} + \sqrt[3]{\frac{8x}{729}} + \sqrt[3]{\frac{27x}{5832}} = 1$ then the value of x is :
 (A) 1 (B) 8 (C) 3 (D) 4
2. The value of $\sqrt{6 + \sqrt{6 + \sqrt{6 + \dots \infty}}}$ is
 (A) 4 (B) 3 (C) -4 (D) 3.5
3. In the given figure three circles with centre A, B, C respectively touch each other externally such that AB = 5cm, BC = 7cm and CA = 6cm, then the radius of the circle with centre A is
 (A) $\frac{3}{2}$ cm (B) 2 cm
 (C) $\frac{5}{2}$ cm (D) 3 cm
- 
4. The perimeter of an isosceles right triangle is 2P, its area is :
 (A) $(3 - 2\sqrt{2}) P^2$ (B) $(1 - 2\sqrt{2}) P^2$ (C) $(3 + 2\sqrt{2}) P^2$ (D) $(1 + 2\sqrt{2}) P^2$
5. If points A(a, 0), B(0, b) and C(1, 1) are collinear then $\frac{1}{a} + \frac{1}{b}$ is equal to :
 (A) 0 (B) 1 (C) 2 (D) $\frac{1}{2}$
6. The smallest positive solution of the equation $81^{\sin^2 x} + 81^{\cos^2 x} = 30$ is :
 (A) $\frac{\pi}{12}$ (B) $\frac{\pi}{8}$ (C) $\frac{\pi}{3}$ (D) $\frac{\pi}{6}$
7. A sphere and a cube have the same surface area. Find out the ratio of the volume of the sphere to that of the cube :
 (A) $6 : \pi$ (B) $\sqrt{6} : \sqrt{\pi}$ (C) $\sqrt{6} : \pi$ (D) $6 : \sqrt{\pi}$
8. Beginning at 8:30 am, buses of the zoo and the planetarium begin at a tour agency. Buses for the zoo leave every 15min. Buses for the planetarium leave every 20 min. After how many minutes do the buses leave at the same time?
 (A) Every 15 min (B) Every 30 min (C) Every 45 min (D) Every 60 min
9. If $a + c + e = 0$ and $b + d = 0$, then the zeroes of the polynomial $ax^4 + bx^3 + cx^2 + dx + e$ are
 (A) 1 (B) -1 (C) Both (A) and (B) (D) None of the above
10. Simplify :

$$\frac{1}{x+p} + \frac{1}{x+q} + \frac{1}{x+r} + \frac{px}{x^3+px^2} + \frac{qx}{x^3+qx^2} + \frac{rx}{x^3+rx^2}$$
 (A) $\frac{1}{x+p+q+r}$ (B) $\frac{1}{p} + \frac{1}{q} + \frac{1}{r}$ (C) $\frac{3}{x}$ (D) $\frac{3}{p+q+r}$

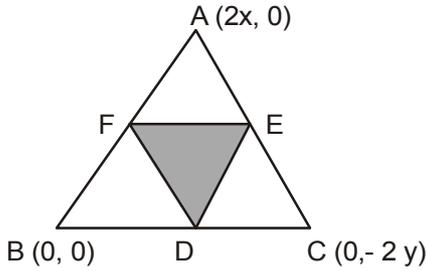
11. If $(a^2 + b^2)x^2 + 2(ac + bd)x + c^2 + d^2 = 0$ has no real roots, $a, b, c, d \in \mathbf{R}$, then
 (A) $ad = bc$ (B) $ab = cd$ (C) $ac = bd$ (D) $ad \neq bc$
12. The sum of n term of the sequence $\frac{1}{1 \cdot 2}, \frac{1}{2 \cdot 3}, \frac{1}{3 \cdot 4}, \dots$ will be
 (A) $\frac{1}{n(n+2)}$ (B) $\frac{n}{(n+1)}$ (C) $\frac{1}{n \cdot 2n}$ (D) None of the above
13. If S_r denotes the sum of first r terms of an AP, then $(S_{2n} - S_n) : S_{3n}$ is
 (A) $1/n$ (B) $1/3n$ (C) $1/3$ (D) None of the above
14. The sum of the series $45^2 - 43^2 + 44^2 - 42^2 + 43^2 - 41^2 + 42^2 - 40^2 + \dots$ 15 terms is
 (A) 1900 (B) 1290 (C) 2592 (D) 2220
15. In a flag race, a pole is placed at the starting point, which is 10 m from the first flag and the other flags are placed 6 m apart in the same direction along the same straight line. There are 10 flags in the line. Each participant starts from the pole, picks up the nearest flag, comes back with it, place it on the pole, runs back to pick up the next flag and continues the same way until all the flags are on the pole. A participant is required to cover a distance of :
 (A) 740 m (B) 760 m (C) 820 m (D) 860 m
16. Let $\{a_n\}$ be a non-constant arithmetic progression with $a_1 = 1$ and for any $n \geq 1$, the value $\frac{a_{2n} + a_{2n-1} + \dots + a_{n+1}}{a_n + a_{n-1} + \dots + a_1}$ remains constant, Then, a_{15} will be
 (A) 30 (B) 29 (C) 31 (D) Can't be determined
17. Consider two triangular parks ABC and EFG such that a path from one point of the park bisects the other side of the park. If the dimensions of the park ABC are $AB = 4\text{m}, BC = 6\text{m}$ and $AC = 3\text{m}$ and that of park EFG are $EF = 2\text{m}, EG = 3\text{m}$ and $FG = 1.5\text{m}$.



Then, which of the following is true?

- (A) $\triangle ADC \sim \triangle FHG$ (B) $\frac{CD}{GH} = \frac{AB}{FE}$ (C) $\triangle CDB \sim \triangle GHE$ (D) All of the above

18.

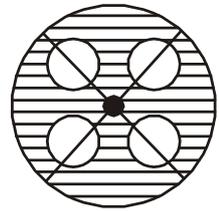


A park DEF is to be constructed between the colonies A, B and C in such a manner that one of the corners of the park lies at the mid-point of the two colonies as shown in above figure. Then, the area of the park so constructed, is

- (A) xy sq units (B) $\frac{xy}{2}$ sq units (C) $2xy$ sq units (D) None of the above

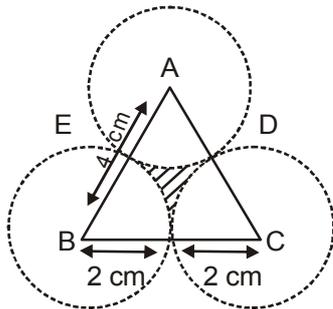
19.

The area of the shaded portion, if radius of the larger circle is 6cm and of the smaller circle 2 cm, is (take $\pi = 3.14$)



- (A) 60.8 cm^2 (B) 61.8 cm^2
 (C) 62.8 cm^2 (D) 63.8 cm^2

20.

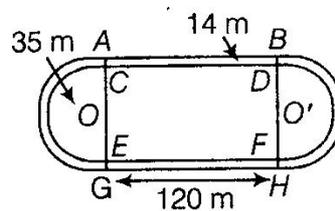


In the given figure, if three circles of equal radii are being drawn at the corners of an equilateral $\triangle ABC$ passing through the mid-points of the sides AB, BC and CA of length 4 cm. Then, area of the triangle not covered by the circles is

- (A) $(4\sqrt{3} - \pi)\text{cm}^2$ (B) $(4\sqrt{3} - 2\pi)\text{cm}^2$ (C) $(4 - 2\pi)\text{cm}^2$ (D) $(4 - \pi)\text{cm}^2$

21.

If a pool has to be construed with a boundary of width 14 m consisting of two straight sections 120 m long joining semi-circular ends whose inner radius is 35 m. If the cost of flooring the boundary by tile is Rs. 50 per sq m, then the cost incurred will be (take $\pi = 3.14$)



- (A) Rs. 352800 (B) Rs. 350000
 (C) Rs. 375000 (D) Rs. 352600

22. State 'T' for true and 'F' for false.

I. Median is that observation which divides the data into two equal parts.

II. In the formula, median = $l + \frac{\frac{n}{2} - cf}{f} \times h$.

where cf represents the cumulative frequency of the class preceding the median class.

III. If n is odd, then median is the value of $\left(\frac{n}{2}\right)^{\text{th}}$ observation.

IV. If the median of 24, 25, 26, x + 2, x + 3, 30, 31 and 34 is 27.5, then the value of x is 25.

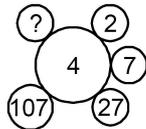
V. If 35 is removed from the data 30, 34, 35, 36, 37, 38, 39 and 40, then the median is increased by 1.

	i	ii	iii	iv	v
(A)	T	F	T	F	
(B)	T	T	F	F	T
(C)	T	F	T	F	T
(D)	T	F	F	T	F

23. The next term of the sequence 4, 9, 21, 47, 101, 211, ... is

- (A) 421 (B) 433 (C) 427 (D) 441

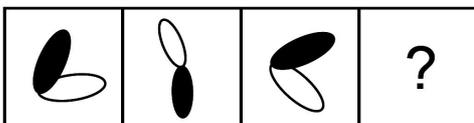
24. Find the missing number in each of the following figures.



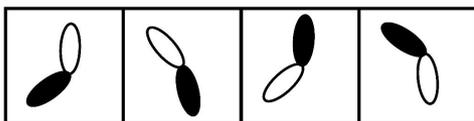
- (A) 407 (B) 427 (C) 417 (D) 327

Directions (25-26): Each of the following questions consists of two sets of figures. Figures 1, 2, 3 and 4 constitute the problem set while figures (a), (b), (c) and (d) constitute the answer set. There is a definite relationship between figures (1) and (2) a similar relationship between figures (3) and (4) by selecting a suitable figure from the answer set that would replace the problem mark (?).

25.



(1) (2) (3) (4)



(a) (b) (c) (d)

- (A) a (B) b (C) c (D) d

26.

(1)	(2)	(3)	(4)

(a)	(b)	(c)	(d)

- (A) a (B) b (C) c (D) d

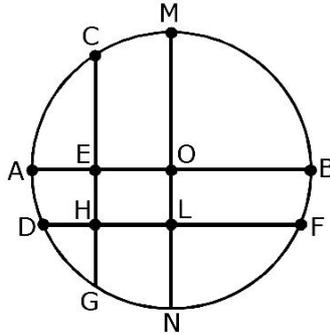
27. In the following series, what numbers should replace the question marks?
 -1, 0, 1, 0, 2, 4, 1, 6, 9, 2, 12, 16, ? ? ?
 (A) 11, 18, 27 (B) -1, 0, 3 (C) 3, 20, 25 (D) none of these
28. If $x > 8$ and $y > -4$, then which one of the following is always true?
 (A) $xy < 0$ (B) $x < (-y)^2$ (C) $-x < 2y$ (D) $x > y$
29. If S_n denotes the sum of the first n terms in an Arithmetic Progression and $S_1 : S_4 = 1 : 10$ then the ratio of first term to fourth term is:
 (A) 1 : 3 (B) 2 : 3 (C) 1 : 4 (D) 1 : 5
30. If the ratio of the roots of the equation $x^2 - 2ax + b = 0$ is equal to that of the roots $x^2 - 2cx + d = 0$, then:
 (A) $a^2b = c^2d$ (B) $a^2c = b^2d$ (C) $a^2d = c^2b$ (D) $d^2b = c^2a$
31. At a reputed Engineering College in India, total expenses of a trimester are partly fixed and partly varying linearly with the number of students. The average expense per student is Rs.400 when there are 20 students and Rs. 300 when there are 40 students. When there are 80 students, what is the average expense per student?
 (A) Rs. 250 (B) Rs. 300 (C) Rs. 330 (D) Rs. 350
32. In a cricket match, Team A scored 232 runs without losing a wicket. The score consisted of byes, wides and runs scored by two opening batsmen: Ram and Shyam. The runs scored by the two batsmen are 26 times wides. There are 8 more byes than wides. If the ratio of the runs scored by Ram and Shyam is 6:7, then the runs scored by Ram is
 (A) 88 (B) 96 (C) 102 (D) 112

DIRECTIONS for questions 33 and 34 : Read the information given below and answer the question. It is possible to arrange eight of the nine numbers 2, 3, 4, 5, 7, 10, 11, 12, 13 in the vacant squares of the 3 by 4 array shown below so that the arithmetic average of the numbers in each row and column is the same integer.

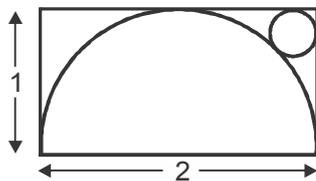
1			15
	9		
		14	

33. The arithmetic average is:
 (A) 6 (B) 7 (C) 8 (D) 9
34. Which one of the nine numbers must be left out when completing the array?
 (A) 4 (B) 5 (C) 7 (D) 10

35. In a certain factory, each day the expected number of accidents is related to the number of overtime hours by a linear equation. Suppose that on one day there were 1000 overtime hours logged and 8 accidents reported, and on another day there were 400 overtime hours logged and 5 accidents. What are the expected numbers of accidents when no overtime hours are logged?
 (A) 2 (B) 3 (C) 4 (D) 5
36. m is the smallest positive integer such that for every integer $n \geq m$, the quantity $n^3 - 7n^2 + 11n - 2$ is greater than 3. What is the value of m ?
 (A) 4 (B) 5 (C) 8 (D) 6
37. If $a_1 = 1$ and $a_{n+1} - 3a_n + 2 = 4n$ for every positive integer n , then a_{100} equals
 (A) $3^{99} - 200$ (B) $3^{99} + 200$ (C) $3^{100} - 200$ (D) $3^{100} + 200$
38. In the following figure, the diameter of the circle is 3 cm. AB and MN are two diameters such that MN is perpendicular to AB . In addition, CG is perpendicular to AB such that $AE:EB = 1:2$, and DF is perpendicular to MN such that $NL:LM = 1:2$. The length of DH in cm is



- (A) $2\sqrt{2} - 1$ (B) $\frac{(2\sqrt{2} - 1)}{2}$ (C) $\frac{(3\sqrt{2} - 1)}{2}$ (D) $\frac{(2\sqrt{2} - 1)}{3}$
39. The number of common terms in the two sequences 17, 21, 25, ..., 417 and 16, 21, 26, ..., 466 is
 (A) 78 (B) 19 (C) 20 (D) 77
40. In the following figure the radius of smaller circle is :



- (A) $3 + 2\sqrt{2}$ (B) $3 - 2\sqrt{2}$ (C) $2 - 3\sqrt{2}$ (D) $2 + 3\sqrt{2}$

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64

Selection in
JEE Advanced

802

Selection in
JEE Main

53

Selection in
Different Medical
Entrance
Examination

72

Selection in
NTSE
Scholarship
Examination

90

Selection in
OLYMPIAD
Scholarship
Examination

14

Selection in
KVPY
Scholarship

JEE-ADVANCED



JEE-Advanced
AIR : 723



JEE-Advanced
AIR : 1310*



JEE-Advanced
AIR : 1643/19



JEE-Advanced
AIR : 1652



JEE-Advanced
AIR : 1980



JEE-Advanced
AIR : 2089



JEE-Advanced
AIR : 2260



JEE-Advanced
AIR : 2474



JEE-Advanced
AIR : 2942



JEE-Advanced
AIR : 3178



JEE-Advanced
AIR : 3493



JEE-Advanced
AIR : 3517



JEE-Advanced
AIR : 4009



JEE-Advanced
AIR : 4250



JEE-Advanced
AIR : 4859



JEE-Advanced
AIR : 5240



JEE-Advanced
AIR : 7539



JEE-Advanced
AIR : 13000

NEET



Anwar
Ahmad
Siddaqui
Marks
350



Anurag
Srivastava
Marks
701



Vikash
Tiwari
Marks
633



Anand
M. Mishra
Marks
554



Priya
Sharma
Marks
543



Ankur
Singh
Marks
539



Anjali
Dubey
Marks
527



Kriti
Yadav
Marks
524



Abhinav
Kumar
Marks
517



Heena
Falima
Marks
512



Shruti
Marks
419



Aakanksha
Chandra
Marks
372

CBSE 12th Board Results 2019



Amarna
Pratap
94.60%



Kartik
Mishra
93%



Sameer
Pandey
92.80%



Niharika
Singh
92.20%



Nish
Maurya
92%



Yash
Singh
92%



Anand M.
Mishra
92%



Aryan
Dahiya
91.60%



Smit
Shukla
90.60%



Ayush
Tiwari
90.40%



Shweta
Tiwari
90.40%

CBSE 10th Board Results 2019



Shiv
Kumar
97.4%



Amarna
Pandey
97%



Abhinav
Pandey
96.2%



Utkarsh
Prakash
96.2%



Aashika
Singh V.
96%



Ashish
Kumar
95.8%



Ashika K.
Tiwari
95.6%



Utkarsh
Singh
95.2%



Anita
Shakti
95%



Utkarsh
Sharma
95%



Avinash
Mishra
95%



Shashank
Dahiya
94.8%



Shanya
P. Singh
94.8%



Kartavyan
Kumar
94.6%



Ayushi
Mehta
94.4%



Sanchit
Rai
94.4%



Ashika
Tiwari
94.2%



Aditya
Yadav
94%



Shashank
Sinha
94%



Sloshi
Pandey
93.6%



Priyansh
Yadav
93.4%



Alok
Ranjan
92.8%



Khushi
Tiwari
92.8%



Tanav
Yadav
92.6%



Abhinav
Singh
92.4%



Utkarsh
Rao
92.4%



Dhyanesh
Rai
92.2%



Akhil
P. Singh
92%



Naveen
K. Gupta
92%



Om
Mehta
92%



Parthiv
Tiwari
92%



Prarthana
Gupta
91.8%



Vivek
K. Singh
91.4%