MATHS

BOOKS - VGS BRILLIANT MATHS (TELUGU ENGLISH)

2019 MARCH PUBLIC EXAMINATION PAPER (MATHEMATICS: PAPER II)

Questions

1. In ΔABC, $LM \mid\mid BC$ and $\frac{AL}{LB} = \frac{2}{3}$, $AM = 5cm$. Find AC

Watch Video Solution

2. Evaluate $\sin 15^\circ . \sec 75^\circ$.

Watch Video Solution

3. A box contains 3 blue and 4 red balls . What is the probability that the ball taken out randomly will be red?

Watch Video Solution

4. The mean for a grouped data is calculated by $\bar{x} = a + \frac{\sum f_i d_i}{\sum f_i}$.

What do the terms $'f_i'$ and $'d_i'$ represent in the above formula?

Watch Video Solution

5. IF the distance between two points (x,1) and (-1,5) is '5'. Find the value of 'x'.

Watch Video Solution

6. Find the length of the tangent from a point 13 cm away from the centre of the circle of radius 5 cm.

Watch Video Solution

7. IF $\cos A = \frac{7}{25}$, then find sin A and cosec A. What do you observe?

Watch Video Solution

8. Rehman observed the top of the temple at an angle of elevation of 30°, when the observation point is 24 m. away from the foot of the temple. Find the height of the temple.

Watch Video Solution

9. Write mid-values of the following frequency distribution.

Class Interval	8 – 11	12 – 15	16 – 19	20 – 23	24 – 27	28 – 31	32 – 35
Frequency	4	4	5	13	20	14	8

Watch Video Solution

10. Prove that $(\sin A + \cos ecA)^2 + (\cos A + \sec A)^2 = 7 + \tan^2 A + \cot^2 A$

.

Watch Video Solution

11. ABC is a right angled triangle, right angled at C. Let BC=a, CA=b,AB=c and let p be the length of perpendicular from C on AB.

Prove that (i) pc=ab and (ii) $\frac{1}{p^2} = \frac{1}{a^2} + \frac{1}{b^2}$.

Watch Video Solution

12. Find the median of the following data.

Class Interval	11-15	16-20	21-25	26-30	31-35	36-40
Frequency	3	5	9	12	7	4

Watch Video Solution

13. In what ratio does the point (- 4 , 6) divide the line segment joining the points A (- 6 , 10) and B (3 , - 8) ? (AS_1)

Watch Video Solution

14. Two dice is thrown at the same time. What is the probability that the sum of two numbers appearing on the top of the dice is (a) 10,(b) less than or equal to 12, (c) a prime number , (d) multiple of '3'?

Watch Video Solution

15. A tree breaks due to storm and the broken part bends so that the top of the tree touches the ground by making 30° angle with the ground. The distance between the foot of the tree and the top of the tree on the ground is 6 m. Find the height of the tree before falling down.

Watch Video Solution

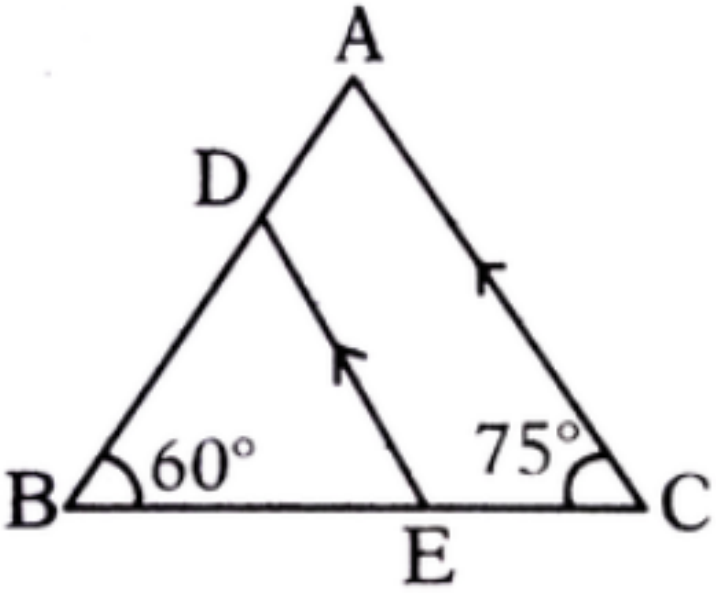
16. Construct a triangle PQR, where QR=5.5 cm , $\angle Q = 65^\circ$ and PQ=6 cm. Then draw another triangle, whose sides are $\frac{2}{3}$ times of the corresponding sides of ΔPQR.

Watch Video Solution

17. Draw a circle of radius 4 cm and draw a pair of tangent to the circle, which are intersecting each other 6 cm away from the centre.

Watch Video Solution

18. In the figure, $\angle BDE$=.....



A. 45°

B. 65°

C. 75°

D. 60°

Answer: A

Watch Video Solution

19. $\cos 60^\circ + \sin 30^\circ$ value is.....

A. $\sqrt{3}/2$

B. 1

C. $\cos 90^\circ$

D. B and C

Answer: B

Watch Video Solution

20. A={2,3,5,6,8},B={2,5,7} then $A \cup B$

A. {2,5}

B. {2,3,5,6,8}

C. {2,3,5,6,7,8}

D. none

Answer:

Watch Video Solution

21. Centroid of triangle , whose vertices are (- a , 0) , (0 , b) and (a , 0) is .....

A. (a,b)

B. $\left(\frac{a}{3}, 0\right)$

C. $\left(0, \frac{b}{3}\right)$

D. $\left(\frac{a}{3}, \frac{b}{3}\right)$

Answer: C

Watch Video Solution

22. The formula to find the area of a tri-angle is ....

A. $\Delta = \frac{1}{2}bh$

B. $\Delta = \sqrt{(s-a)(s-b)(s-c)}$

C. $\Delta = \sqrt{s(s-a)(s-b)(s-c)}$

D. A and C

Answer: D

Watch Video Solution

23. The theorem applied to divide the line segment in the given ratio is.....

A. Pythagoras theorem

B. Thales theorem

C. Euclid theorem's

D. Brahmagupta theorem

Answer: B

Watch Video Solution

24. The number of tangents drawn at the end points of the diameter is.....

A. 1

B. 2

C. 3

D. Infinite

Answer: B

Watch Video Solution

25. IF $\sec A + \tan A = \frac{1}{5}$, then sec A- tan A=.....

A. 5

B. $\frac{1}{5}$

C. $\frac{4}{5}$

D. $\frac{2}{5}$

Answer: A

Watch Video Solution

26. The length of shadow of a pole is equal to the length of the pole, then the angle of the elevation of the Sun is .....

A. 15°

B. 30°

C. 45°

D. 60°

Answer: C

Watch Video Solution

27. Angle is a semi-circle is.....

A. 60°

B. 90°

C. 180°

D. 270°

Answer: B

 Watch Video Solution

28. The probability that the sum of two numbers appearing on the top of the dice is 13,when two dice are rolled at the same time is.....

A. -1

B. 1

C. 0

D. 2

Answer: C

Watch Video Solution

29. IF P (E) =0.05, then P $\left(\overline{E}\right)$ =.....

A. 0.5

B. 0.95

C. 9.5

D. 0.095

Answer: B

Watch Video Solution

30. The mode of the data 5,6,9,10,6,11,4,6,10,4 is.....

A. 4

B. 5

C. 6

D. 10

Answer: C

Watch Video Solution

31. Reciprocal of $\tan\theta$ is.....

A. $\sec\theta$

B. $\cot\theta$

C. $\cos ec\theta$

D. $-\tan\theta$

Answer: B

Watch Video Solution

32. $\left(\sec^2\theta - 1\right)\left(\cos ec^2\theta - 1\right)$=.....

A. 0

B. 1

C. $\tan^2\theta$

D. $\cot^2\theta$

Answer: B

Watch Video Solution

33. The centre of the circle is (2,1) and one end of the diameter is (3,-4). Another end of the diameter is.....

A. (1,6)

B. (-1,-6)

C. (1,-6)

D. (-1,6)

Answer: A

Watch Video Solution

34. The letter that represents $\frac{x_1 - a}{h}$, which is used in measuring mean is.....

A. d_1

B. f_1

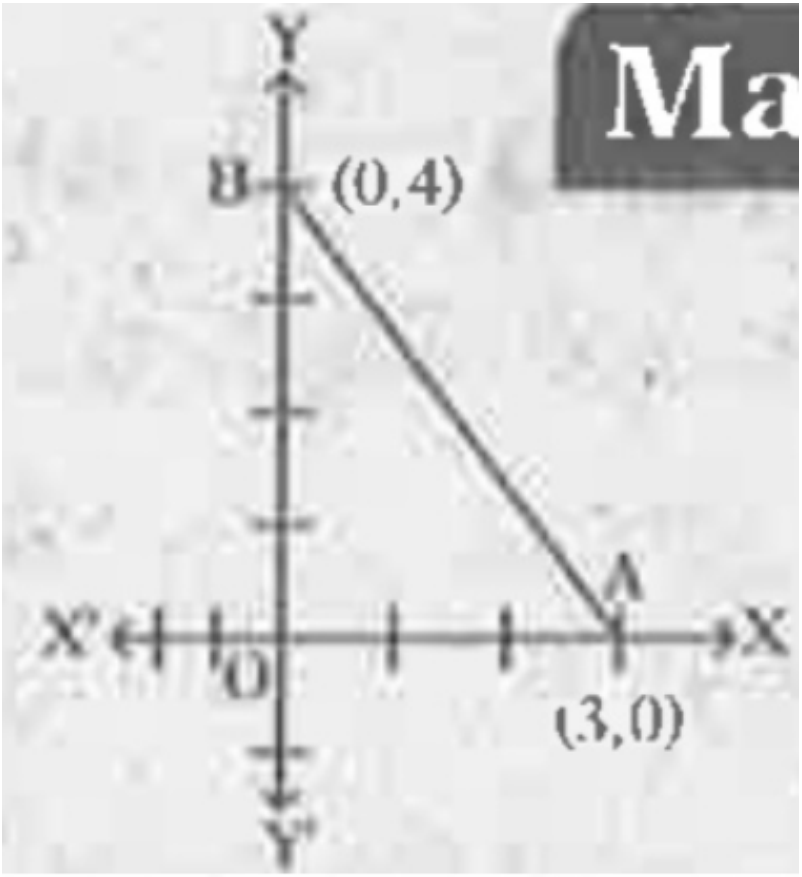
C. u_1

D. $\bar{x}$

Answer: C

Watch Video Solution

35. In the given figure, area of ΔOAB is .....



A. 12 sq.u.

B. 6 sq.u.

C. 24 sq.u

D. 18 sq.u

Answer: B

Watch Video Solution

36. Which of the following be the probability of an event?

A. -1.5

B. 2.4

C. 0.7

D. 1.15

Answer: C

Watch Video Solution

37. $\sin(90 - A) = \frac{1}{2}$, then A=.....

A. 30°

B. 45°

C. 60°

D. 90°

Answer: C

Watch Video Solution