AMITY INSTITUTE
FOR COMPETITIVE EXAMINATIONS

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AMITY FIVE YEARS CONCEPTUAL PROGRAMME

MODULE TEST-III

CLASS - IX

MATHEMATICS

Time: 1 hour 15 Minutes **Date: 27-01-2017** **Maximum Marks: 160**

GENERAL INSTRUCTIONS:

1. Fill in the response sheet with your Name, Class, School etc, in the respective columns, using a blue pen

2. Only one choice (a), (b), (c), (d) is correct for each question. Shade the alphabet of your choice in the response sheet.

3. For each correct response you will get **4 marks**; for each incorrect response you will lose **1 mark**. However if the question is unanswered no marks will be deducted.

4. Use only HB pencil/Ball point pen for Shading.

1. Which of the following is irrational?

(a) $\left(3+\sqrt{23}\right)-\sqrt{23}$ (b) $\frac{2\sqrt{7}}{3\sqrt{7}}$ (c) 2π (d) None of these

2. $\frac{1}{\sqrt{7}-2} = ?$

(a) $\frac{\sqrt{7}+2}{5}$ (b) $\frac{\sqrt{7}+2}{3}$ (c) $\frac{\sqrt{7}+2}{45}$ (d) $\frac{9}{5}$

3. If $x+\frac{1}{x}=a$, the value of $x^3+\frac{1}{x^3}$ is :

(a) $a^3 - 3a$ (b) $-2a$ (c) $a^3 - 3a^2$ (d) Cannot be found

4. The value of $(28)^3 + (-15)^3 + (-13)^3$ is :

(a) 15380 (b) 16380 (c) 0 (d) –16380

5. The coordinates of a point on the x-axis are of the form :

(a) (x, 0) (b) (0, x) (c) (x, x) (d) all of these

6. $y = 3x + 5$ has

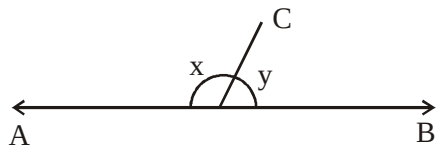
(a) No solution (b) Unique solution (c) 2 solution (d) Infinitely many solutions

7. An equation of the type $y = mx$ represents a line :

(a) parallel to x-axis (b) parallel to y-axis
(c) passing through origin (d) none of these

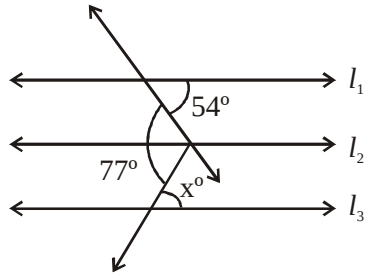
8. Consider the statements
Statement-I : A terminated line can be produced indefinitely.
Statement-II : 2 distinct intersecting lines cannot be parallel to the same line.
(a) I, II both are true (b) I is true, II is false
(c) I is false, II is true (d) Both are false

9. If $\frac{3}{7}x = y$, the values of x & y respectively are :



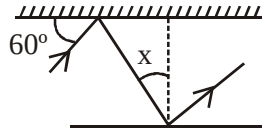
(a) 54º, 126º (b) 126º, 54º (c) 18º, 082º (d) none of these

10. In the figure, $l_1 \,||\, l_2 \,||\, l_3$, find x



(a) 54º (b) 77º (c) 13º (d) 23º

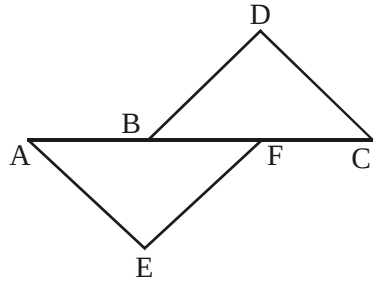
11. The value of x in the following figure is :



(a) 30º (b) 45º (c) 60º (d) none of these

12. In ΔABC, $\angle B = 46º$ and $\angle C = 54º$. Find the angle between the angle bisectors of angles B & C.
(a) 50º (b) 23º (c) 27º (d) 130º

13. In the following figure. EF = BD, AB = CF, $\angle AFE = \angle DBC$. Which of the following is true?



(a) EF = CD (b) EF = BC (c) AE = CD (d) None of these

14. Through any point on the bisector of an angle, a straight line is drawn parallel to either arm of an angle. The triangle so formed is :
(a) equilateral (b) isosceles (c) scalene (d) right angled

15. In a triangle, angle opposite to the longer side is _____.
(a) smaller (b) larger (c) 60º (d) 90º

16. Every parallelogram is a :
(a) rhombus (b) rectangle (c) quadrilateral (d) none of these

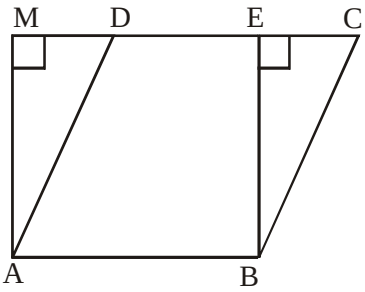
17. Every rhombus is a :
(a) square (b) rectangle (c) parallelogram (d) all of these

18. Bisectors of angles of a parallelogram form a :
(a) square (b) rectangle (c) rhombus (d) none of these

19. Line segments joining the mid-points of a quadrilateral form a :
(a) rectangle (b) rhombus (c) parallelogram (d) none of these

20. Diagonals AC and BD of a quadrilateral ABCD intersect at O such that OB = OD and AB = CD, then
(a) ar(DOC) = ar(AOB) (b) ar(DCB) = ar(ACB)
(c) ABCD is a parallelogram (d) all of these

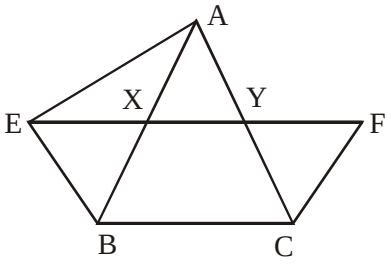
21. In the given figure, if parallelogram ABCD and rectangle ABEM are of equal area, then



(a) perimeter of ABCD = perimeter of ABEM (b) perimeter of ABCD < perimeter of ABEM
(c) perimeter of ABCD > perimeter of ABEM (d) perimeter of ABCD = $\frac{1}{2}$ perimeter of ABEM

22. Given parallelogram ABCD and EBCF on the same base BC and between the parallels BC and AF. Given as (EBCF) = 17 sq. then ar(ABCD) is :
(a) 34 sq. cm (b) 8.5 sq. cm (c) 17 sq. cm (d) none of these

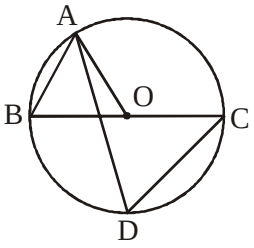
23. EBCY and BCFX are parallelograms on the same base BC and X, Y are produced to A. Then which of the following is true.



(a) ar (ΔAEB) = ar ($\|^{gm}$ EBCY) (b) ar (ΔAEB) = $\frac{1}{2}$ ar ($\|^{gm}$ EBCY)
(c) ar($\|^{gm}$ EBCY) = $\frac{1}{2}$ ar($\|^{gm}$ BCFX) (d) None of these

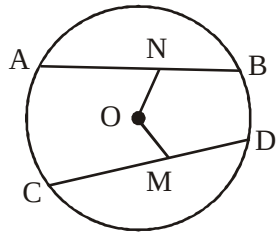
24. Quadrilateral formed by the internal angle bisectors of any quadrilateral is
(a) parallelogram (b) rectangle (c) cyclic (d) none of these

25. In the figure, BC is diameter of the circle and $\angle$BAO = 50º, Then $\angle$ADC is :



(a) 50º (b) 60º (c) 80º (d) 120º

26. O is the centre of circle. If OM < ON, then



(a) CD > AB (b) CD < AB (c) CD = AB (d) cannot be determined

27. Given a circle of radius 13 cm and centre O. OL is perpendicular to the chord AB. If OL = 12 cm then length of chord AB is :
(a) 5 cm (b) 10 cm (c) 12 cm (d) 24 cm

28. Sides of a triangular plot are in the ratio of 3 : 5 : 7 and its perimeter is 300 m. Its area is :
(a) $1500\sqrt{3}$ m^2 (b) 1500 m^2 (c) 150 m^2 (d) none of these

29. Diagonal of a cube is 9 cm, then its lateral surface area is :
(a) 12 cm^2 (b) 36 cm^2 (c) $12\sqrt{3}cm^2$ (d) 108 cm^2

30. The radius of the sphere is 3r, then its volume will be :
(a) πr^3 (b) $4\pi r^3$ (c) $12\pi r^3$ (d) $36\pi r^3$

31. The mean of 30 observations is 16.5. Later it was found that the observation 14 was misread as 41. The corrected mean is :
(a) 15.2 (b) 14.6 (c) 15.6 (d) 15.8

32. In a continuous frequency distribution, class mark of a class is 75 and lower limit is 73, then its upper limit is :
(a) 74 (b) 77 (c) 76 (d) 78

33. Which of the following is true?
(a) Mode + 3 Median = 2 mean (b) Mode – 3 Median = 2 Mean
(c) Mode + 2 Mean = 3 Median (d) None of these

34. In a class of a particular school, probability of choosing a girl is 0.58. If there are 116 girls in the class, then the total number of students in the class are _____.
(a) 200 (b) 300 (c) 400 (d) 500

35. Two customers are visiting a particular shop in the same week (Monday to Friday). Each is equally likely to visit the shop on any one day as on another. What is the probability that both will visit the shop on different days?
(a) $\frac{6}{7}$ (b) $\frac{2}{5}$ (c) $\frac{4}{5}$ (d) $\frac{5}{6}$

36. The point of the form (c, –c) always lies on the line
(a) x = c (b) y = –c (c) x + y = 0 (d) x = y

37. With the help of ruler and compass, it is not possible to construct an angle of
(a) 37.5º (b) 40º (c) 22.5º (d) 135º

38. The construction of a ΔPQR, given that QR = 5cm, $\angle R = 60^\circ$ is possible when difference of PQ & PR is equal to :
(a) 4.8 cm (b) 6 cm (c) 5.1 cm (d) 5.8 cm

39. Isosceles trapezium is always
(a) parallelogram (b) rhombus (c) cyclic (d) none of these

40. The diagonals of a rhombus are of length 12 cm and 16 cm. The area of rhombus is :
(a) 192 cm^2 (b) 96 cm^2 (c) 48 cm^2 (d) Cannot be found

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MODULE TEST-III

CLASS - IX

MATHEMATICS

A N S W E R S (Date 27-01-2017)

1. (c)	2. (b)	3. (a)	4. (b)	5. (a)
6. (d)	7. (c)	8. (c)	9. (b)	10. (d)
11. (a)	12. (d)	13. (c)	14. (b)	15. (b)
16. (c)	17. (c)	18. (b)	19. (c)	20. (d)
21. (c)	22. (c)	23. (b)	24. (c)	25. (a)
26. (a)	27. (b)	28. (a)	29. (d)	30. (d)
31. (c)	32. (b)	33. (c)	34. (a)	35. (c)
36. (c)	37. (b)	38. (a)	39. (c)	40. (b)

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