SUBJECT:- MATHEMATICS(OBJECTIVE)

TIME-40 MINUTES
FULL MARK-40

GENREAL INSTRUCTIONS:-

1. All questions are compulsory.
2. This question set contains 40 objective type questions.
3. Read the questions properly and select the correct option.

1. The incentre of an acute triangle lies outside the triangle.

True

False

2. The perimeter of an isosceles triangle with side 3cm and 7 cm is 17cm.

True

False

3. The point of concurrence of all the medians of a triangle is called its circumcentre.

True

False

4. The area of a rhombus with diagonals 10cm and 12cm is 60 sq cm

True

False

5. The diagonals of a rhombus bisect each other at 90 degree.

True

False

6. The ratio of radii of two circles is equal to the ratio of their circumference.

True

False

7. The sum of numbers written on the opposite faces of a dice is always 5.

True

False

8. The line of symmetry of line segment is its perpendicular bisector.

True

False

9. Subtraction of rational numbers doesn’t satisfy commutative property.

True

False

10. The multiplicative inverse of a rational number x is same as its reciprocal.

True

False

11. A wire is in the form of a circle. The radius of the circle is 28 cm. The wire is then moulded to form a square. Find the side of the square formed?

a. 44 cm

b. 66 cm

c. 22 cm

d. 11 cm

12.The area of the path 1 m wide surrounding a playground 60 m long and 40 m broad is_____.

A. 200 sq. m.

B. 204 sq. m.

C. 2604 sq. m.

D. 240 sq. m.

13.10 x 10^11 is equal to _____

A. (100)^4

B. (10)^10

C.(100)^12

D.(10)^12

14. Three times the first of three consecutive odd integers is 3 more than twice the third. The third integer is_____.

A. 9

B. 11

C. 13

D. 15

15.The three side of a triangle are 3 cm, 4 cm and 5 cm respectively, then its area is_____.

A. 6 sq.cm

B. 7 sq.cm

C. 8 sq.cm

D. 9 sq.cm

16.The product of (1-1/2)(1-1/3)(1-1/4).....(1-1/50)

A. 1/10

B. 1/50

C.50

D. 1

17. How many lines of symmetry are there in a regular pentagon?

(a) 1

(b) 2

(c) 3

(d) 5

18. If 4x-3=21, what is the value of (3x-5)?

a. 16

b.14

c.13

d.15

19. A point O is in the interior of Δ ABC. Which of the following is true? (A) OA+OB>AB (B)OB+OC>BC (C)OA+OC>AC (D)AB+BC+AC<2(OA+OB+OC)

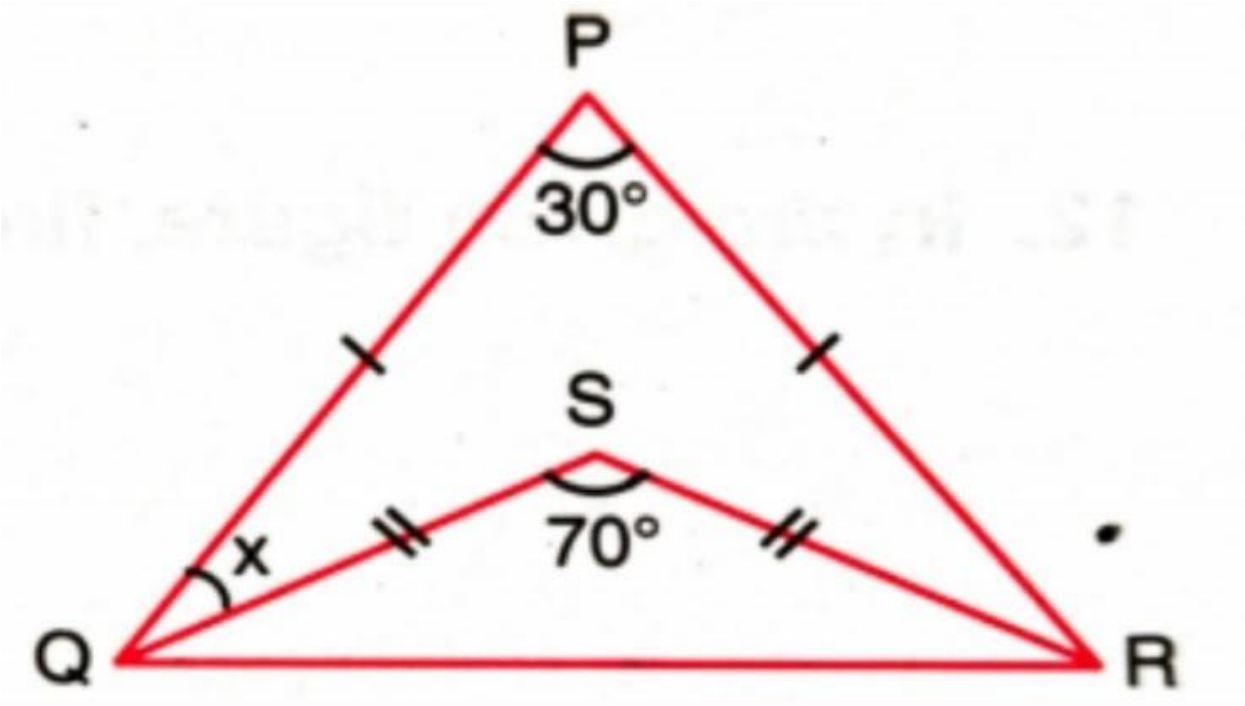
I) A & B

II) Only C

III) Only D

IV) All the above

20. Find the value of x.



A. 75 degree

B. 55 degree

C. 20 degree

D. 40 degree

21. How many lines of symmetry are there in a quadrilateral?

A. 0

B. 2

C. 4

D. None of these

22.Which of the following letters of English alphabet has reflectional symmetryabout a vertical mirror?

a. H

b. J

c. Z

d. P

23. What cross-section do you get when you give a horizontal cut to a die?

a. Square

b. Rectangle

c. Triangle

d. Circle

24.What cross-section do you get when you give a vertical cut to an ice-creamcone?

a. Triangle

b. Circle

c. Rectangle

d. Square

25.The diameter of a circle whose circumference is 22 cm is _____

A. 3.5 cm

B. 7 cm

C. 14cm

D.12 cm

26. Which of the following have more than 1 line of symmetry?

A. W

B. U

C. A

D. H

27. The area of a square is same as the the area of a rhombus with diagonals9cm and 8 cm. Find the perimeter of the square.

a. 72cm
b. 36 cm
c. 24 cm
d. 16 cm

28. (2^0 + 3^0) × 4^0 = ?

a.1
b.2
c.3
d.4

29. Select the correct statement.

(a) 2^0 = (100)^0

(b) 10^2 × 10^8 = 10^16
(c) 2^2 × 3^3 = 6^5
(d) 2^3 > 3^2

30. 555 in standard form is

(a) 5.55 × 10^2
(b) 55.5 × 10^3
(c) 5.55 × 10^1
(d) 5.05 × 10^4

31. Simplify: p(p – q) + q (q + p)

(a) p

(b) q

(c) p + q

(d) p^2 + q^2

32. Which of the following is not true for the congruence of two triangles?

A.SAS
B.SSS
C.SSA
D.RHS

33. Find the value of the expression z^3 – 2(z – 10) for z = 10
(a) 10
(b) 100
(c) 1000
(d) 10000

34. If the value of the expression x^2 – 5x + k for x = 0 is 7, then the value of k is _____

(a) 2

(b) 5

(c) 4

(d) 7

35. The difference between two whole numbers is 66. The ratio of the two numbers is 2: 5. The two numbers are _____

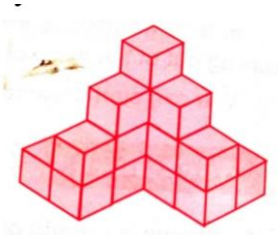
A. 60 and 6

B. 100 and 33

C. 110 and 44

D. 99 and 33

36. How many cubes are there in the given figure?



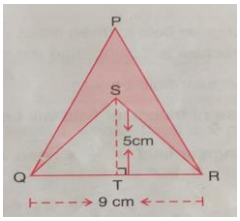
A.16

B.18

C.13

D. None of these

37.Determine the area of the shaded region if the area of the larger triangle is 50 sqcm.



a. 22.5 sq cm

b. 27.5qcm

c.5 sq cm

d. None of these

38.x is an even number. The largest even number preceding x is _____

a. x – 1
b.x – 2

c.x – 3

d.x – 4

39.Select the Pythagorean triplet from the following.

(a) (6,8,10)

(b) (5,6,7)

(c) (10,11,12)

(d) (13,16,19)

40. The largest number of the three consecutive numbers is x + 1. Then, thesmallest number is _____

(e) x + 2

(f) x + 1

(g) x

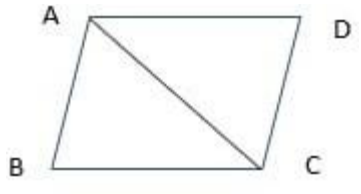
(h) x – 1

SUBJECT:- MATHEMATICS (Subjective)

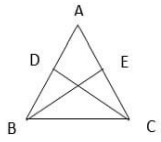
TIME-1 Hr 30 Minutes
FULL MARK-40

Section-A(2 x 11=22)

1. The sum of two angles of a triangle is equal to its third angle. Determine the measure of the third angle.
2. Factorize: ax – bx + ay – by
3. If area of a rectangle with length (a – b) and breadth (2a + b) is the same as the algebraic expression kab + 2a^2 – b^2, find k.
4. Draw a triangle ABC with AB = 6.2 cm, < ABC = 50 degree, <ACB = 60 degree.
5. Find x, (x+2)(x+3) + (x-3)(x-2) -2x(x+1) =0
6. Construct an isosceles right triangle whose equal sides are 4.5 cm.
7. A man goes 15km due south and then 8km due east. How far away is he from his initial position?
8. Draw the net of the following: (a) square pyramid (b) Cylinder
9. Radius of a circular region is 63 cm. Find the least length of rope which is sufficient to encircle the circular region.
10. AB II DC and AB = DC. State the three pairs of matching parts which make $\Delta ABC \cong \Delta CDA$.



11. In the given figure AD =AE, BD=CE. Prove that Δ AEB$\cong\Delta$ADC.



Section-B(3 x 6 =18)

12. Show that the bisector of the vertical angle of an isosceles triangle bisects the base.
13. If a wire is bent into the shape of a square, the area of the square is 49 sq. cm. When the wire is bent into a semi-circular shape, find the radius of the semi- circle.
14. Find the area of a rhombus whose diagonals are given as 10m and 12m.
15. Meena used to go for walk every morning to a park. The park is in the shape of a rectangular field of dimensions 20 m × 15 m. Two paths run parallel to the sides of the rectangle through the center of the field. The width of the longer path is 2 m and that of the shorter path is 1 m. Meena's uncle asked her to find the area of the path. Help Meena to find the area of the path.

16. Solve and write the answer in standard form of exponent.

0.1 x {(0.004 +0.05) - (0.03)}

17. Simplify and verify: (p + q +r)(q +r); p=-1, q=−2, r=1

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