

Class IX

Summative Assessment II Mathematics

Time : 3 Hrs

M. Marks : 80

General Instructions :

- 1) All questions are compulsory.
- 2) The question paper consist of 34 question divided into four sections A, B, C, D
- 3) Section A contains 12 multiple choice type question, first 8 (1-8) of which carries mark each, next 4 (9-12) carries 2 marks each Section B contains 7 questions 2 marks each, Section C contains 10 questions of 3 marks each and Section D contains 5 questions of 4 marks each.

SECTION – A

Q1. Every rational number is

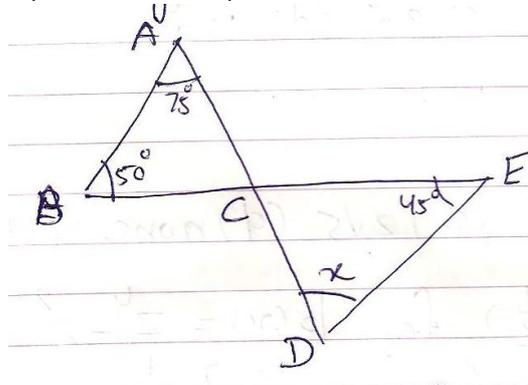
- a) a natural number
- b) a whole number
- c) a real number
- d) None of these

Q2. Decimal representation of $1/7$ is

- a) 0.142857
- b) 0.142657
- c) 0.142867
- d) none of these

Q3. In the given figure if $AB \parallel DE$ then $x =$

- a) 110°
- b) 115°
- c) 120°
- d) none of these



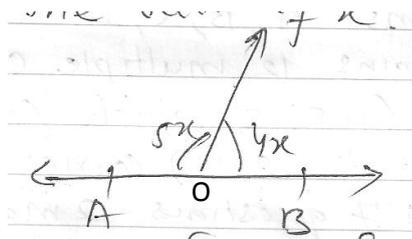
Q4. In ΔABC , $\angle A = 100^\circ$, $\angle B = 30^\circ$, $\angle C = 50^\circ$ then

- a) $AB > AC$
- b) $AB < AC$
- c) $BC < AC$
- d) None of these

Q5. If the diagonals AC and BD of a quadrilateral ABCD bisect each other then ABCD is a

- a) Parallelogram
- b) Rectangle
- c) Rhombus
- d) none of these

Q6. find the value of x

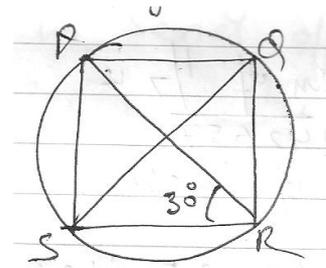


- a) 80°
- b) 20°
- c) 40°
- d) 620°

Q7. The distance of a chord of length 16 cm from the centre of the circle of radius 10 cm. is

- a) 6 cm
- b) 8 cm.
- c) 10 cm.
- d) 12 cm.

Q8. In the figure the magnitude of $\angle PQS$ is



- a) 30° b) 60° c) 90° d) 120°

Q9. $8\sqrt{15} \div 2\sqrt{3}$

- a) $4\sqrt{15}$ b) $4\sqrt{5}$ c) $2\sqrt{5}$ d) none of these

Q10 the value of $P\left(\frac{1}{2}\right)$ for $p(x) = z^4 - z^2 + z$ is

- a) $\frac{7}{16}$ b) $\frac{5}{16}$ c) $\frac{3}{16}$ d) $\frac{1}{16}$

Q11. In ΔABC , $AB = AC$, and $\angle A = 70^\circ$ the measure of $\angle C$ will be

- a) 70° b) 55° c) 40° d) None of these

Q12. The following observation have been arranged in ascending order

29, 32, 48, 50, x, x+2, 72, 78, 84, 95

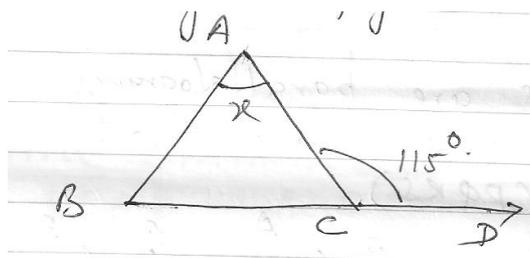
if the median of the data is 63, the value of x will be

- a) 61 b) 62 c) 63 d) 64

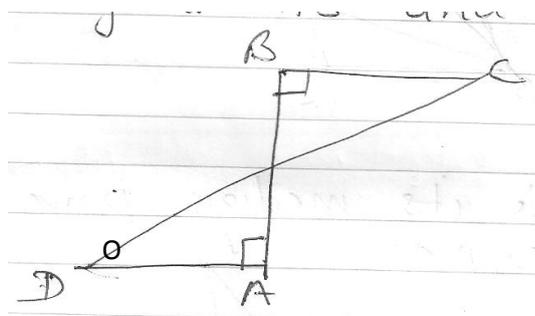
SECTION B

Q13. Locate $\sqrt{2}$ on a number line.

Q14. In the given figure $AB=AC$ then find x



Q15. AD and BC are perpendiculars to a line segment AB and $AD=BC$ show that $AO=OB$.



Q16. If the opposite angle of a parallelogram are $(3x-5)^\circ$ and $(51-x)^\circ$ find the measure of each angle.

Q17. In ΔABC , D, E, F are respectively the mid points of sides AB, BC and CA. show that ΔABC is divided into four congruent triangle by joining D, E and F.

Q18. Find the radius of a sphere whose surface area is 154 cm^2

Q19. Find the mean of first ten whole numbers.

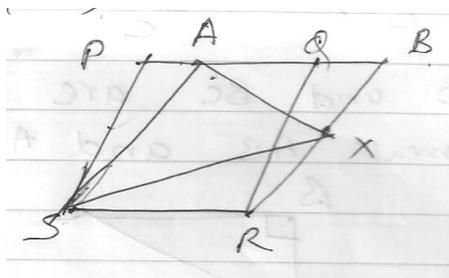
SECTION C

Q20. Using suitable identity evaluate $(99)^3$

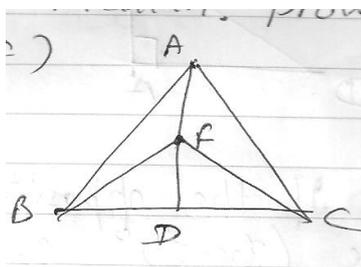
Q21. Factorise: $8x^3 - y^3 - 12x^2y + 6xy^2$

Q22. In an isosceles triangle ABC, $AB=AC$ D and E are points on BC such that $BE=CD$ Show that $AD=AE$

Q23. PQRS and ABRS are parallelograms and X is any point on side BR show that $ar(\triangle AXS) = \frac{1}{2}ar(\text{PQRS})$

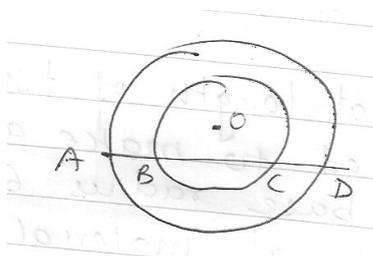


Q24. In $\triangle ABC$, AD is its median. Prove that $ar(\triangle ABE) = ar(\triangle ACF)$



Q25. Show that the median of a triangle divides it into two triangles of equal areas.

Q26. There are two concentric circles with centre O. AD is a chord of a larger circle intersecting the smaller circle at B and C. Prove that $AB=CD$



Q27. The height of a cone is 16cm and its base radius is 12 cm. find the curved surface area and total surface area of a cone. (use $\pi=3.14$)

Q28. The length breadth and height of a room are 5m, 4m and 3m respectively. Find the cost of white washing the walls of the room and ceiling at the rate of Rs. 7.50 per m^2

Q29 The following are the points scored by kabaddi team in series of matches

17, 2, 7, 27, 15, 5, 14, 8, 10, 24, 48, 10, 8, 7, 18, 28

Find the mean and mode of the data

SECTION D

Q30. Draw a Histogram and frequency polygon for the following data

Marks	0-20	20-40	40-60	60-80	80-100	Total
No. of students	10	15	40	45	40	150

- a) How many students got marks more than or equal to 60.
- b) How many students got marks less than 40.

Q31 Using factor theorem factories: $x^3+13x^2+32x+20$

Q32 What length of tarpaulin 3m wide will be required to make a conical tent of height 8m and base radius 6m? Assume that the extra length of material that will be required for stitching margins and wastage in cutting is approximately 20cm. (use $\pi=3.14$)

Q33. prove that parallelograms on the same base and between the same parallel are equal in area.

Q34. ABC and ADC are two right triangles with common hypotenuse AC prove that $\angle CAD = \angle CBD$.

