INTERNATIONAL INDIAN SCHOOL – DAMMAM
SUMMATIVE ASSESSMENT – II (2015 – 16)

MATHEMATICS

CLASS: VII

SET – A

TIME: 3 Hours
Max.Marks:90

General Instructions:-

1. All questions are compulsory.
2. Section A – Questions 1 – 8 carry 1 mark each
3. Section B – Questions 9 – 14 carry 2 marks each.
4. Section C – Questions 15 – 24 carry 3 marks each.
5. Section D – Questions 25 – 34 carry 4 marks each.
6. There is no overall choice. However, internal choice has been given in each section.

SECTION – A (1 X 8 = 8 MARKS)

1. A _____ connects a vertex of a triangle to the midpoint of the opposite side.

2. By applying SAS congruence rule, you want to establish that $\Delta PQR \cong \Delta FED$. It is given that PQ = FE and RP = DF. What additional information is needed to establish the congruence?

3. Give the algebraic expression for the following:
   Product of numbers x and y subtracted from 25.

4. Find the value of $(12^0 - 11^0) \times (5^0 + 6^0)$.

5. Convert 7.65 to percentage.

6. Two angles of a triangle are 45^0 and 65^0. Find the measure of the third angle.

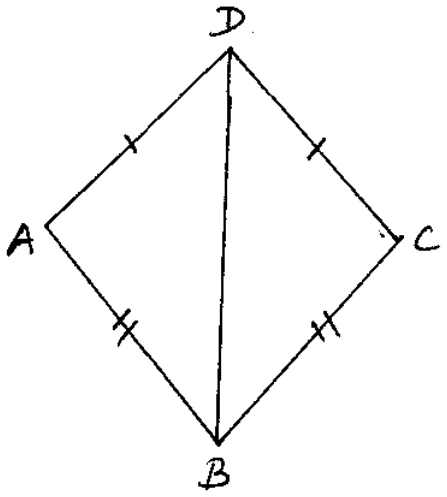
7. Find the value of $(3^5)^{20}$ in the exponential form.

8. If the circumference of a circle is 440cm, find its radius.

SECTION – B (2 X 6 = 12 MARKS)

9. Out of 20,000 people in a city, 40% are literate. Find the percentage of people who are illiterate. Find how many people are illiterate.

10. In the given figure, AD = CD and AB = CB. Check whether $\triangle DAB$ and $\triangle DCB$ are congruent. If yes, state the congruence and state the three pairs of corresponding parts.



11. Draw a tree diagram for the expression, $7y + 5x^2 + 9xy$.

12. The population of a city increased from 40,000 to 60,000. Find the percentage increase.

13. Simplify and write the answer in the exponential form $\left(\frac{2^6}{2^4}\right) \times 2^7$.

OR

13. Express 729 as a power of 3.

14. The area of a rectangular sheet is 700 cm^2. If the length of the sheet is 35 cm, what is its width? Also, find the perimeter of the rectangular sheet.

SECTION – C (3 X 10 = 30 MARKS)

15. A circle of radius 3cm is cut out from a square piece of an aluminium sheet of side 8cm. What is the area of the left over aluminium sheet? (Take $\pi = 3.14$).

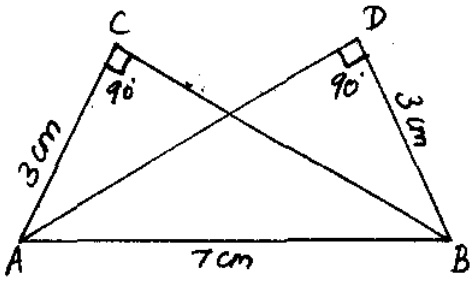
16. Construct a triangle DEF such that DE = 6cm, DF = 4cm and m<EDF = 80^0.

OR

Construct an isosceles triangle in which the lengths of each of its equal sides is7cm and the angle between them is 100^0.

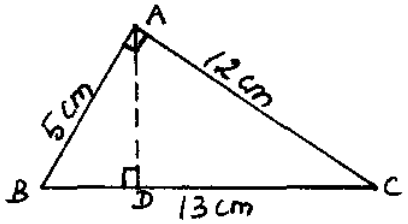
17. Express 165 X 66 as a product of powers of their prime factors in exponential form.

18. In the given figure, check whether the triangles ABC and BAD are congruent.
    a) If yes, state the congruence and state the three pairs of corresponding parts.
    b) Is <A = <B? Give reasons.
    c) Is BC = AD? Give reasons.

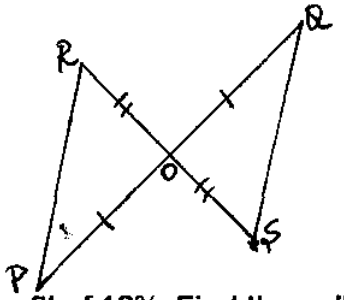


19. A tree is broken at a height of 8m from the ground and its top touches the ground at a distance of 15m from the base of the tree. Find the original height of the tree.

20. ABC is a triangle right angled at A. AD is perpendicular to BC. If AB = 5cm, BC = 13cm and AC = 12cm, find the area of the triangle ABC. Also, find the length of AD.



21. In the given figure, PQ and RS bisect each other at O. Check whether the triangles POR and QOS are congruent.
    a) If yes, state the congruence and state the three pairs of corresponding parts.
    b) Is <R = <S? Give reasons.
    c) Is PR = QS? Give reasons.



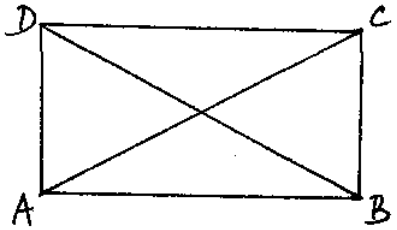
22. a) The cost of an item is Rs. 5000. It was sold with a profit of 12%. Find the selling price.
    b) Convert each part of the ratio 3 : 7 into percentage.

23. What should be added to $2x^2 - 3xy + 2y^2$ to obtain $4x^2 + xy + 5y^2$?

24. Draw a line, say MN, take a point L outside it. Through L, draw a line parallel to MN using ruler and compasses only.

SECTION – D (4 X 10 = 40 MARKS)

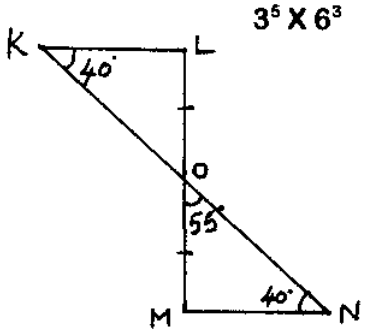
25. ABCD is a quadrilateral.
Is AB + BC + CD + DA > AC + BD ?



26. Construct a right angled triangle PQR, where m<Q = 90^0 , QR = 8cm and PR = 10cm.

27. Simplify using laws of exponents and mention the laws used: $\frac{3^4 \times 12^3 \times 36}{3^5 \times 6^3}$

28. In the given figure, check whether the triangles KOL and NOM are congruent.
   a) If yes, state the congruence and state the three pairs of corresponding parts.
   b) Is KL = NM ? Give reasons.
   c) Is OK = ON ? Give reasons.



29. a) Find the perimeter of the rhombus whose diagonals measure 40 cm and 30 cm.

   b) Find the exterior angle of a triangle if its two opposite interior angles are 65^0 and 87^0.

30. a) Simplify the expression $4(y^2 + 3) + 8y^2 - 3y^3$ and find the value if y = 2.
   b) Find the numerical coefficient of $-5x^2y^3z^4$.

31. If Sheela gives an interest of Rs.500 for 2 years at 10% rate per annum, what is the sum she has borrowed? What is the amount she has to pay at the end of 2 years?

32. From a circular card sheet of radius 21cm, two circles of radius 7cm and a rectangle of length 20cm and breadth 5cm are removed. Find the area of the remaining sheet. (Take $\pi = \frac{22}{7}$)

33. From the sum of $5 + 4x + x^2$ and $3 - 7x + 2x^2$, subtract the sum of $2x^2 - 6x$ and $-x^2 + 2x + 5$.

34. Two cross roads each of width 10m, cut at right angles through the centre of a rectangular park of length 800m and breadth 300m and parallel to its sides. Find the area of the roads. Also find the area of the park excluding cross roads.

OR

34. A verandah of width 2m is constructed all along outside a room which is 7m long and 3m wide. Find i) the area of the verandah and ii) the cost of cementing the floor of the verandah at the rate of Rs.500 per m^2.

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