ANNUAL EXAMINATION - MARCH 2008

CLASS : VII
SUBJECT:MATHEMATICS

MAX.MARKS:100
TIME :3 hrs

SET - A

Instructions:

1. There are 25 questions in this paper divided into 3 sections.
2. All questions are compulsory. However, there is internal choice in every section.

SECTION - A
(Each question carries 3 marks)

1. Verify (-31) x [(-2) + (-8)] = [(-31) x (-2)] + [(-31) x (-8)].

2. The scores in Mathematics test (out of 100) of 9 students is as follows. 84, 92, 75, 97, 92, 90, 95, 84, 92. Find the mean, mode and median of this data.

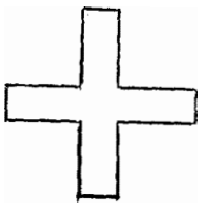
3. Simplify combining like terms and find the value of the expression
   $a^2 - ab - b^2 + b(a-b)$, If a = (-2), b = 1

4. Out of 25,000 voters in a constituency 72% voted. Find the number of voters who did not vote ?

   OR

   30% apples in a basket are rotten. How many apples are there in the basket if 135 apples are rotten ?

5. Draw lines of symmetry and give the order of rotational symmetry for the following figure:



6. A shopkeeper buys a radio-set for Rs 550 and sells it for Rs 660. Find his loss percent or profit percent.

7. In a class test containing 12 questions, 5 marks are given for every correct answer and (-2) marks are given for every incorrect answer. Ria attempted all questions and got 5 correct and 7 incorrect answers. What is her total score ?

8. Construct ΔPQR with PR = 7.5cm, QR = 5cm and $\angle R = 70^0$.

9. The length and breadth of a rectangular park is 250m and 125m respectively. Find the area and perimeter of the park.

10. A 10m long ladder reached a window 8m high from the ground on placing it against a wall at a distance 'x' meters. Find the distance of the foot of the ladder from the wall.

SECTION B
(Each question carries 4 marks)

11. Simplify: $\left[\frac{5}{6}+\frac{(-18)}{15}\right]\div\left[\frac{13}{15}\times\frac{3}{-}\right]$

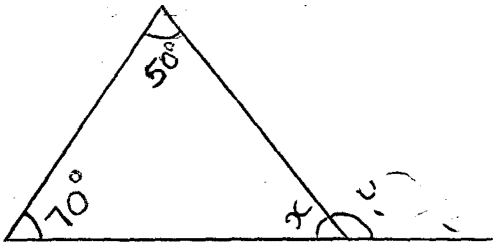
12. In a garden there are 125 trees in which some are fruit trees. The numbers of non-fruit trees are five more than twice the number of fruit trees. Find the number of fruit trees.

OR

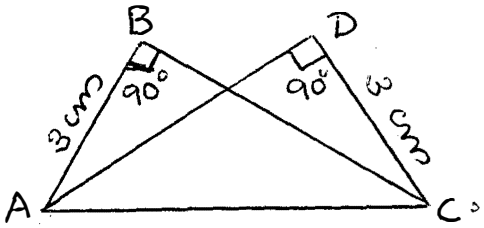
Solve for m: 24 - 5 (m -2) = 9

13. a) Is it possible to have a triangle with sides 3cm, 4cm and 6cm ? Give reasons.

b) Find the value of x and y in the following figure:



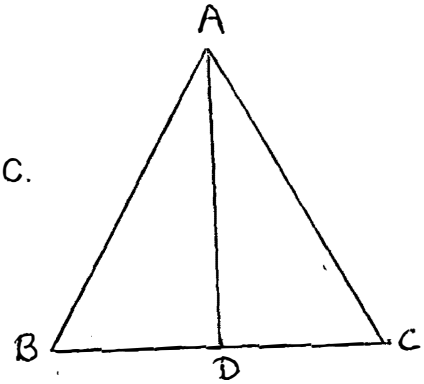
14. Using congruence criterion, show that ΔABC and ΔCDA are congruent.



15. Rs 30000 each were lent to Rajeev and Sanjeev at 6% per annum for a period of 3 years and 5 years respectively. Find the difference of interests paid by them.

16. Construct ΔABC if AB = 7cm , $\angle B = 40^0$ and $\angle C = 45^0$

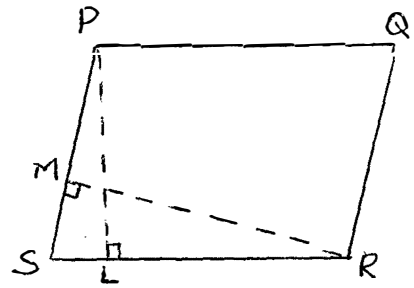
17. In figure AB = AC and D is the mid-point of BC.



a) State the three pairs of equal parts in ΔADB and ΔADC.
b) Is $\Delta ADB \cong \Delta ADC$ .Give reasons.

18. From a circular sheet of radius 12cm a circle of radius 9cm is removed. Find the area of the remaining sheet. (use $\pi = \frac{22}{7}$).

19. PL and RM are heights on sides SR and PS respectively of parallelogram PQRS. If the area of the parallelogram is 1440cm^2, SR = 48cm and PS = 40cm. Find the lengths of PL and RM.



20. From the sum of $2x^2 - xy + y^2$ and $-2y^2 + x^2 - 2xy$ subtract the sum of $y^2 - x^2 + xy$ and $-y^2 + 4xy + 2x^2$.

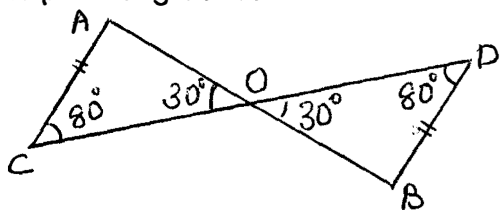
SECTION C
(Each question carries 6 marks)

21. The death-rate per thousand of some countries in a certain year is as follows. Represent the data on a bar graph.

Countries	India	Japan	Russia	Australia	Egypt	Pakistan
Death rate (per thousand)	24	19	16	9	24	11

a) For which country death rate is minimum.
b) For which country death rate is maximum.

22. In figure AC = BD and $\angle C = \angle D$. With the help of congruence criterion, show that $\Delta AOC \cong \Delta BOD$.



a) Is OC = OD ? Justify.
b) Is OA = OB ? Give reasons.

23. a) Roshini bought a T.V set for Rs 12500. After two years she sold it at 6% profit. Find the selling price of the T.V.

b) Population of a city decreased from 30000 to 28500. Find the percentage decrease.

(3+3)

24. a) Express the following as product of powers of their prime factors in exponential form:

$$216 \times 324$$

b) Using laws of exponents simplify and write the answer in exponential form.

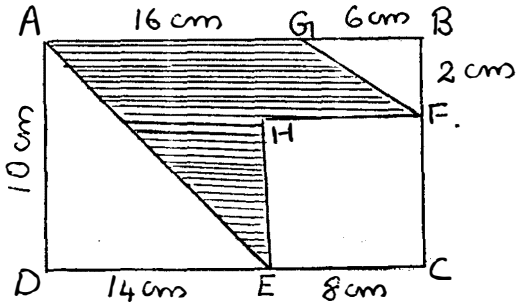
$$\frac{12^3 \times 3^3 \times 8}{6^2 \times 9}$$

(3+3)

25. Two cross roads, each of width 2m, cut at right angles through the centre of a rectangular park of length 150m and breadth 125m and parallel to its sides. Find the area of the roads. Also find the area of the park excluding cross roads.

OR

Find the area of shaded portion in the following figure.



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