AMRITA VIDYALAYAM

HALF YEARLY EXAMINATION 2017 - '18

Class : VIII   **Marks : 80**

Time   : 2½ hrs

MATHEMATICS

> *GENERAL INSTRUCTIONS:*
> Section A : 1 to 10 carry 1 mark each.
> Section B : 11 to 19 carry 2 marks each.
> Section C : 20 to 27 carry 3 marks each.
> Section D : 28 to 34 carry 4 marks each.

SECTION - A

I. Match the following.

1. Each angle of a square   196

2. $(\underline{2} \times 49)^2$ 60^0
    7

3. 4096 is cube of   direct proportion

4. $\underline{30}$ $(\underline{-1} + \underline{2})$ 90^0
    7   5   3

5. Speed and time   16

    2

    inverse proportion

    28

II. Chose the correct answer.

6. One or more outcome of an experiment make _____.
    (an event, a data, outcomes, none of these)

7. If 3 men can finish a work in 9 days how long will 9 men take
    to finish the same work?
    (4 days, 9 days, 3 days, none of these)

8. The square of a prime number is _____.
    (prime, composite, even, none of these)

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9. The multiplicative inverse of $(1/5)^{-2}$ is _____.
   (25, 1/10, 1/25, -10)
10. How many diagonals does a regular hexagon have?
   (2, 8, 9, 6)

SECTION - B

11. The measures of two adjacent angles of a parallelogram are in the ratio 3:2. Find the measure of each of the angles of the parallelogram?
12. Write a Pythagorean triplet whose one member is 8.
13. Represent -11/5 on the number line.
14. Cost of 10 metres of cloth is ` 200. Find the cost of 2 metres of this cloth?
15. A bag contains 5 black, 7 red and 3 white balls. A ball is drawn from the bag at random. Find the probability of getting a white ball?
16. Find the measure of each exterior angle of a regular polygon of 9 sides?
17. Find the product and verify the commutative property for multiplication. $2/7 \times -6/13$
18. Find the cube root 3375 by prime factorisation method.
19. Find the length of the side of a square whose area is 441m^2.

SECTION - C

20. What should be added to (-7/9) so as to get -8?
21. One of the diagonals of a rhombus is equal to one of its sides. Find the angles of the rhombus?
22. Given below the ages of the 30 students of class VIII.
    14, 13, 13, 13, 12, 13, 17, 12, 13, 14, 13, 16, 15, 14, 13, 14, 12, 16, 14, 13, 14, 13, 15, 14, 13, 14, 12, 13, 14, 13
    Prepare a frequency table for above data. Find the minimum and maximum ages.
23. Find the smallest square number that is divisible by each of the numbers 4, 9 and 10.

24. In an army camp containing 60 jawans the food stored is sufficient for 15 days. If 30 more jawans join the camp, find the number of days for which the stored food will last?
25. Is 8640 a perfect cube? If not find the smallest number by which 8640 must be divided so that the quotient is a perfect cube?
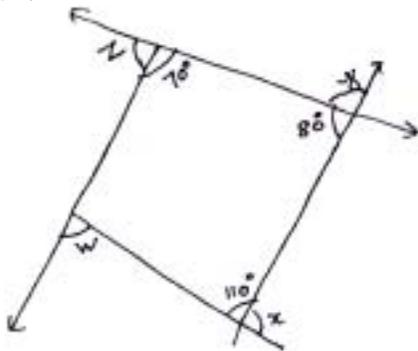26. In the following parallelogram find the values of x, y and z?
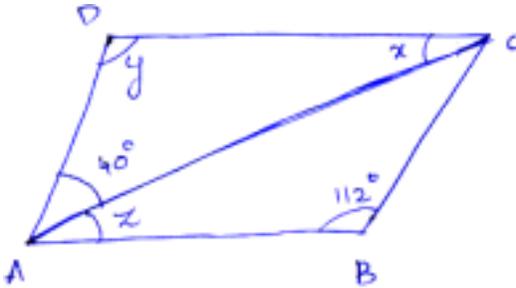
27. The histogram shown alongside depicts the marks obtained by 50 students of a class. Look at histogram and answer the following.
    a) What is class size?
    b) What is lower limit in 70 - 80?
    c) If passing marks are 40, what is the number of failures?
    d) How many students scored 90 above?

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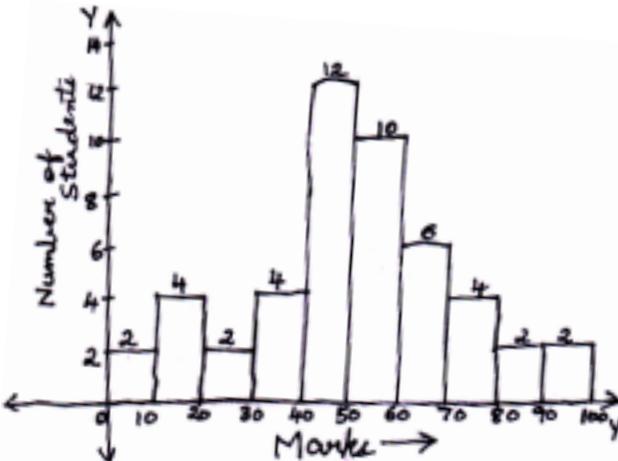
SECTION - D

28. A 50m 60cm high vertical pole casts a shadow 3m 20cm long. Find at the same time
    a) the length of the shadow casts by another pole 10m 50 cm high?
    b) the height of a pole which casts a shadow 5m long?

29. There are 5860 students in a school. A teacher wants to arrange the students in such a manner that the number of rows is equal to the number of columns. How many students would be left out in the arrangement? Find the number of rows after the arrangement?

30. Find the square root of the following numbers.
    a) 42.25   b) 51.84

31. Find
    a) $(\underline{1} \times \underline{3}) + (\underline{7} \times \underline{-3}) + (\underline{-5} \times 4)$ b) $(\underline{5} \times \underline{-4}) - (\underline{3} \times \underline{4})$
       $\quad 2 \quad 5 \qquad 5 \quad 5 \qquad 2 \quad 2$ $\quad 18 \quad 12 \qquad 9 \quad 12$

32. Find w, x, y and z.

33. The number of students in a hostel, speaking different languages, is given below. Display the data in a pie chart.

Languages	Hindi	English	Marathi	Tamil	Bengali	Total
Number of students	40	12	9	7	4	72

34. Find the cube root of the following numbers by prime factorisation method:
    a) 13824   b) 15625

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