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SAMPLE PAPER FOR HALF YEARLY EXAM (2019-20)

SUBJECT: MATHEMATICS
CLASS : VIII

MAX. MARKS : 80
DURATION : 2 ½ HRS

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- (i). All questions are compulsory.
(ii). This question paper contains 40 questions divided into four Sections A, B, C and D.
(iii). **Section A** comprises of 20 questions of **1 mark** each. **Section B** comprises of 6 questions of **2 marks** each. **Section C** comprises of 8 questions of **3 marks** each and **Section D** comprises of 6 questions of **4 marks** each.
(iv). There is no overall choice. However, an internal choice has been provided in two questions of 2 marks each, two questions of 3 marks each and two questions of 4 marks each. You have to attempt only one of the alternatives in all such questions.
(v). Use of Calculators is not permitted
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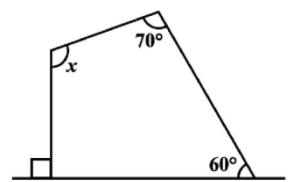
SECTION – A

Questions 1 to 20 carry 1 mark each.

Cards marked with numbers 1 to 25 are placed in the box and mixed thoroughly. One card is drawn at random from the box. Answer the following questions (Q1-Q2)

- What is the probability of getting a number less than 11?
(a) 1 (b) 0 (c) $\frac{1}{5}$ (d) $\frac{2}{5}$
- What is the probability of getting a number 5?
(a) 1 (b) 0 (c) $\frac{1}{25}$ (d) $\frac{1}{5}$
- By which smallest number 392 must be multiplied so as to make the product a perfect cube?
(a) 2 (b) 14 (c) 7 (d) 49
- The square root of 12.25 is
(a) 3.5 (b) 2.5 (c) 35 (d) 25
- If the three angles of a quadrilateral are 120° , 130° and 10° then what is the fourth angle?
(a) 30° (b) 100° (c) 40° (d) 90°
- What is the number of sides in Hexagon?
(a) 4 (b) 7 (c) 6 (d) 5
- The value of x in $5x - 7 = 2x + 8$ is
(a) 5 (b) -9 (c) 5 (d) 9
- Simplify : $\frac{2}{3} + \frac{-4}{5} + \frac{7}{15} + \frac{-11}{20}$
(a) $\frac{-1}{5}$ (b) $\frac{-13}{60}$ (c) $\frac{-4}{15}$ (d) $\frac{-7}{30}$
- Find the ratio of $5m$ to $10km$.
(a) 2000 : 1 (b) 1 : 2000 (c) 1 : 2 (d) none of these
- 72% of 25 students are good in Mathematics, how many are not good in Mathematics?
(a) 16 (b) 14 (c) 18 (d) 7

11. The additive inverse of $-\frac{4}{5}$ is
- (a) $-\frac{4}{5}$ (b) $\frac{4}{5}$ (c) $\frac{5}{4}$ (d) $-\frac{5}{4}$
12. Solve for y : $2y - 1 = 14 - y$
- (a) 15 (b) 5 (c) 10 (d) 7
13. Solve $7x - 9 = 16$
- (a) $\frac{25}{7}$ (b) $\frac{7}{25}$ (c) $-\frac{7}{25}$ (d) $-\frac{25}{7}$
14. How many sides does a regular polygon have if each of its interior angles is 165° ?
- (a) 12 (b) 24 (c) 20 (d) 15
15. A bag has 5 red balls and 7 yellow balls. (the balls are identical in all respect other than colour). A ball is drawn from the bag without looking into the bag. What is probability of getting a yellow ball?
- (a) $\frac{1}{5}$ (b) $\frac{1}{7}$ (c) $\frac{5}{12}$ (d) $\frac{7}{12}$
16. The value of x in the adjoining figure is
- (a) 140° (b) 40° (c) 60° (d) 100°
17. The square of the number 42 is
- (a) 764 (b) 1764 (c) 364 (d) 1264
18. An item marked at Rs. 840 is sold for Rs. 714. The discount % is.....
- (a) 25% (b) 15% (c) 20% (d) 12%
19. A football team won 10 matches out of the total number of matches they played. If their win percentage is 40, then how many matches did they play in all?
- (a) 22 (b) 25 (c) 20 (d) 15
20. The cube of 0.3 is
- (a) 0.9 (b) 0.09 (c) 9.0 (d) 90.0



SECTION – B

Questions 21 to 26 carry 2 marks each

21. Find two rational numbers between $-\frac{3}{5}$ and $\frac{5}{3}$.

OR

Using appropriate properties find $\frac{2}{5} \times \left(-\frac{3}{7}\right) - \frac{1}{6} \times \frac{3}{2} + \frac{1}{14} \times \frac{2}{5}$

22. A man got 10% increase in his salary. If his new salary is Rs. 1,54,000, find his original salary.
23. Find the length of side of a square if the length of its diagonal is 10cm.
24. The following marks (out of 50) obtained in Mathematics by 60 students of class VIII:
 21, 10, 30, 22, 33, 5, 37, 12, 25, 42, 15, 39, 26, 32, 18, 27, 28, 19, 29, 35, 31, 24, 36, 18, 20, 38,
 22, 44, 16, 24, 10, 27, 39, 28, 49, 29, 32, 23, 31, 21, 34, 22, 23, 36, 24, 36, 33, 47, 48, 50, 39,
 20, 7, 16, 36, 45, 47, 30, 22, 17.

Using tally marks make a frequency distribution table with class intervals as 0 – 10, 10 – 20 and so on.

25. Find the cube root of 10648 by prime factorization method.

OR

Is 1188 a perfect cube? If not, by which smallest natural number should 1188 be divided so that the quotient is a perfect square?

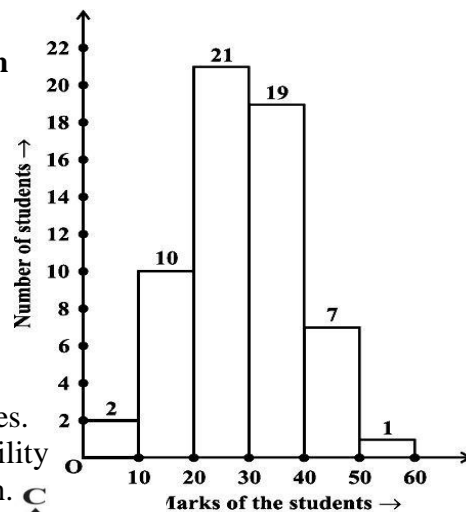
26. How many sides does a regular polygon have if the measure of an exterior angle is 24° ?

SECTION – C

Questions 27 to 34 carry 3 marks each

27. Observe the histogram and answer the following questions:

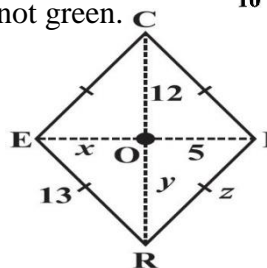
- (i) What information is being given by the histogram?
- (ii) Which group contains maximum students and minimum students?
- (iii) How many students have score 20 marks and more?



OR

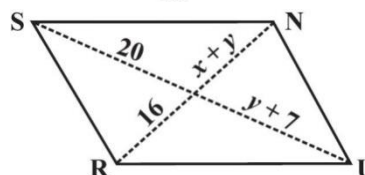
A box contains 5 red marbles, 8 white marbles and 4 green marbles. One marble is taken out of the box at random. What is the probability that the marble taken out will be (i) red? (ii) white? (iii) not green.

28. In the given figure, RICE is a rhombus. Find x, y, z . Hence, find the perimeter of the rhombus.



OR

In a parallelogram RUNS, find the values of x and y .



29. Find the smallest square number that is divisible by each of the numbers 8, 15 and 20.

30. Solve: $4(3p + 2) - 5(6p - 1) = 2(p - 8) - 6(7p - 4)$

31. Find CI on Rs. 12600 for 2 years at 10% per annum compounded annually.

32. Find the smallest number by which 704 must be divided to obtain a perfect cube.

33. Shalini has to cut out circles of diameter $1\frac{1}{4} \text{ cm}$ from an aluminium strip of dimensions $8\frac{3}{4} \text{ cm}$ by $1\frac{1}{4} \text{ cm}$. How many full circles can Shalini cut? Also calculate the wastage of the aluminium strip.

34. Construct a quadrilateral JUMP where $JU = 3.5 \text{ cm}$, $UM = 4 \text{ cm}$, $MP = 5 \text{ cm}$, $PJ = 4.5 \text{ cm}$ and $PU = 6.5 \text{ cm}$.

SECTION – D

Questions 35 to 40 carry 4 marks each

35. One of the two digits of a two digit number is three times the other digit. If you interchange the digits of this two-digit number and add the resulting number to the original number, you get 88. What is the original number?

OR

There is a narrow rectangular plot, reserved for a school, in Mahuli village. The length and breadth of the plot are in the ratio 11 : 4. At the rate Rs. 100 per metre it will cost the village panchayat Rs. 75000 to fence the plot. What are the dimensions of the plot?

36. Find the square root of the given numbers by long division method: (a) 1369 (b) 5625
37. Three numbers are in the ratio 2:3:4. The sum of their cubes is 0.334125. Find the numbers.
38. Construct a quadrilateral TRUE where $TR = 3.5\text{cm}$, $RU = 3\text{cm}$, $UE = 4\text{cm}$, $\angle R = 75^\circ$ and $\angle U = 120^\circ$.
39. Find the population of a city after 2 years, which is at present 12 lakh, if the rate of increase is 4%.

OR

Vasudevan invested Rs. 60,000 at an interest rate of 12% per annum compounded half yearly. What amount would he get (i) after 6 months ? (ii) after 1 year?

40. On a particular day, the sales (in rupees) of different items of a baker's shop are given below.

Ordinary bread	320
Fruit bread	80
Cakes and pastries	160
Biscuits	120
Others	40
Total	720

Draw a pie chart for this data.