

THE INDIAN SCHOOL
SUMMATIVE ASSESSMENT I (2015-16)
MATHEMATICS
CLASS-VIII

Time: 3 hrs.

No. of Pages: 4

General instructions:

Max. Marks: 80

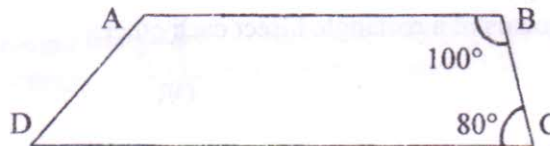
1. All questions are compulsory.
2. There is an internal choice in Q.16 of Section C and Q.19 of Section D.
3. Section A has 4 questions of 1 mark each.
4. Section B has 3 questions of 2 marks each.
5. Section C has 10 questions of 3 marks each.
6. Section D has 10 questions of 4 marks each.
7. All the questions of a section should be done in a correct sequence.

SECTION A (4 × 1M)

1. Find the multiplicative inverse of: $-1 \times \frac{-3}{7}$
2. How many diagonals does a regular hexagon have?
3. Write the ones digit for the cubes of : 2282 and 1007
4. How many Natural numbers lie between 9^2 and 10^2 ?

SECTION B (3 × 2M)

5. How is this figure a trapezium?



6. Using Euler's Axiom, find the unknown.

Faces	?	20
Vertices	6	12
Edges	12	?

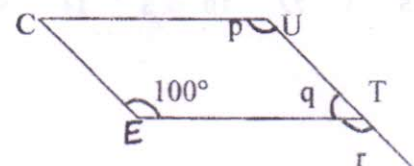
7. The area of a square garden is $4624m^2$. What is the measure of its side?

SECTION C (10 × 3M)

8. The weekly pocket expenses of 25 students of a class are given below. Construct a frequency table with class intervals 60-70 etc.

62, 80, 110, 75, 84, 73, 60, 62, 100, 87, 78, 94, 117, 86, 65, 68, 90, 80, 118, 72, 95, 72, 103, 96, 64

9. CUTE is a parallelogram. Find the measure of the angles p, q, r.



10. Find three rational numbers between $-\frac{3}{2}$ and $\frac{5}{8}$.

11. a. Find a Pythagorean triplet in which one member is 14.

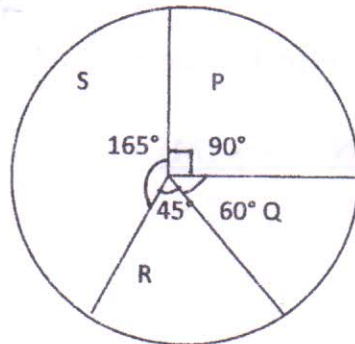
b. Explain how a square is a parallelogram?

12. Verify that:

$$\frac{3}{4} \times \left(-\frac{1}{3} + \frac{5}{6} \right) = \left\{ \frac{3}{4} \times \left(-\frac{1}{3} \right) \right\} + \left\{ \left(\frac{3}{4} \times \frac{5}{6} \right) \right\}$$

13. Find the cube root of 175616 by prime factorization.

14. Parties P, Q, R and S contested elections. Their shares in a vote poll are shown in the pie chart drawn below.



- If in all 72000 votes were polled, how many votes were obtained by parties P and Q separately?
- How many votes were bagged by P, R and S together?

15. A gardener has 8000 plants. He wants to plant them in such a way that the number of rows and number of columns remain the same. Find the minimum number of plants he needs more in order to do this.

16. Prove that the diagonals of a rectangle bisect each other.

OR

16. Prove that the opposite sides of a parallelogram are of equal length.

17. Solve the given equation and check your answer: $\frac{6x+1}{3} + 1 = \frac{x-3}{6}$

SECTION D(10 × 4M)

18. Simplify the following and express the result in the lowest form.

a. $\frac{5}{8} \times \left(-\frac{6}{20} \right) \times \frac{11}{18} \times \frac{-4}{33}$

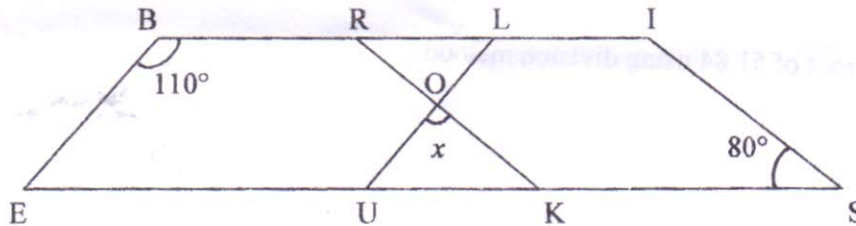
b. $\frac{4}{5} \times \left(-\frac{2}{7} \right) - \frac{1}{10} \times \frac{2}{3} + \frac{3}{14} \times \frac{4}{5}$

19. Is 6750 a perfect cube? If not, find the smallest number by which 6750 can be multiplied to make it a perfect cube? Also find the cube root of the perfect cube.

OR

19. Find the least number that must be subtracted from 5607 so as to get a perfect square. Also find the square root of the perfect square.

20. In the given figure, BLUE and RISK are parallelograms. Find the value of x .



21.a. The denominator of a rational number is greater than its numerator by 8. If the numerator is increased by 17 and the denominator is decreased by 1, the number obtained is $\frac{3}{2}$. Find the rational number.

b. A cloth bag contains 4 white, 3 black and 5 red marbles. A marble is drawn at random. What is the probability that it is not black?

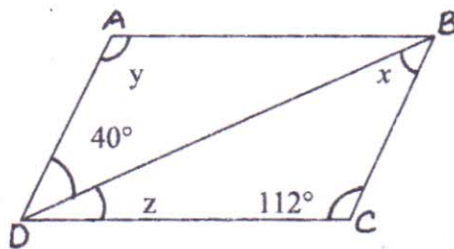
22. a. Expand 1425.269 using exponents.

b. Write 0.0000000000698 in standard form.

c. Mass of Earth is 5.97×10^{24} kg and the mass of moon is 3.84×10^{22} m. What is the total mass?

23. A school collected ₹ 122500 as donation from the students for leprosy patients. If each paid as many rupees as there were students, then how many students are there in the school? What value is being projected here?

24. ABCD is a parallelogram. Find the value of the unknown angles x , y and z . State the properties you use to find them.



25. Evaluate:

a. $\frac{10^{-6} \times 125 \times 3^{-4}}{5^{-4} \times 6^{-5}}$

b. $\left\{ \left(\frac{1}{3}\right)^{-2} - \left(\frac{1}{2}\right)^{-2} \right\} \div \left(\frac{1}{4}\right)^{-3}$

26. The following is the distribution of weights (in kg) of 50 people.

Weight	40-45	45-50	50-55	55-60	60-65	65-70
No. of people	10	8	10	4	6	12

Draw a histogram for the above data and answer the following questions.

- How many people weigh 55kg and above?
- What is the class size?

27. a. Find p such that:

$$(-8)^{p+1} \times (-8)^5 = -8^{12}$$

- Find the square root of 51.84 using division method.

175