

Goa Board
Class VIII Mathematics
Sample Paper - 2

Time: 3 hours

Total Marks: 90

General Instructions:

1. All questions are **compulsory**.
 2. The question paper consists of **34** questions and it is divided into **four sections: A, B, C and D**.
 3. **Section A** comprises of **8** questions carrying 1 mark each.
 4. **Section B** comprises of **6** questions carrying 2 marks each.
 5. **Section C** comprises of **10** questions carrying 3 marks each.
 6. **Section D** comprises of **10** questions carrying 4 marks each
 7. Question numbers **1 to 8** in **Section A** are multiple choice questions where you are to select **one** correct option out of the given four.
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Section A

(Questions 1 to 8 carry 1 mark each)

1. Find the cube root of 1000.
A. 10.1
B. 10
C. 1
D. 101
2. What is the number of faces in a hexagonal prism?
A. 6
B. 8
C. 9
D. 10
3. Square root of 484 is given by which of the options listed below?
A. 21
B. 42
C. 22
D. 32

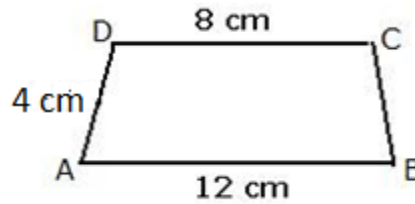
4. Area of a square is 49 cm^2 . Find its perimeter.
- A. 35 cm
 - B. 14 cm
 - C. 30 cm
 - D. 28 cm
5. Janhavi types 480 words in 15 minutes. How many words would she type in 5 minutes?
- A. 140
 - B. 150
 - C. 160
 - D. 170
6. If $\frac{6k+17}{k} = \frac{29}{2}$, then the value of 'k' is
- A. 2
 - B. 3
 - C. 4
 - D. 5
7. Solve for y: $\frac{19z-7}{13z-5} = 1$
- A. $\frac{1}{2}$
 - B. 2
 - C. 16
 - D. 1
8. What is the greatest common factor of expressions $3x^2y^3$, $10x^3y^2$ and $6x^2y^2z$?
- A. $30x^3y^2z$
 - B. $3x^2y^2z$
 - C. x^3y^2z
 - D. x^2y^2

Section B
(Questions 9 to 14 carry 2 marks each)

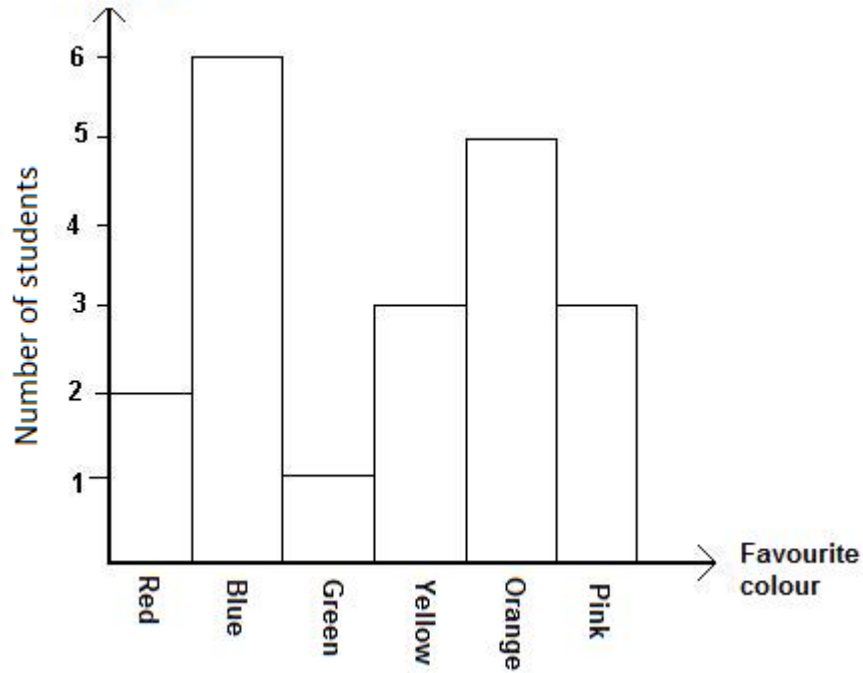
9. Which of the following numbers are divisible by 4?

- (i) 45748
- (ii) 21404

10. The following quadrilateral is an isosceles trapezoidal. Find its perimeter.



11. The given bar graph shows the favourite colours of 20 students in a class. How many more students favour orange colour than green colour?



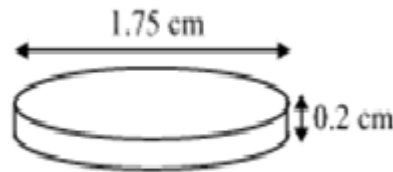
12. Divide 64 into two parts such that three times the greater part will be equal to five times the smaller one.

13. In a two-digit number, the unit's digit is 7 more than the ten's digit. Sum of the digits is half of the whole number. Find the digits and number.
14. The price of a book was Rs. 50. If the price is increased by 6%, then what will be the new price of the book?

Section C

(Questions 15 to 24 carry 3 marks each)

15. A's income is 60% more than that of B. By what percent is B's income less than A's?
16. Find the cube root of 5.832.
17. How many silver coins, 1.75 cm in diameter and of thickness 2 mm, must be melted to form a cuboids of dimensions 5.5 cm × 10 cm × 3.5 cm?



18. Two angles of a quadrilateral are of measures 75° each and the other two angles are equal. What is the measure of either of these two equal angles?
19. For $x = -\frac{4}{9}$ and $y = \frac{5}{11}$, are $|x - y|$ and $|x| - |y|$ equal? If not, then insert two rational numbers between the resulting numbers.
20. A theater charges Rs. 70 for each evening show and Rs. 50 for matinees. On one particular day, 1200 tickets were sold. Also, the number of people who watched evening shows on that day was 30 more than twice the number of people who watched the matinee show. How many of each type of ticket did they sell and what is the money incurred from the evening shows?
21. Simplify: $(5 - x)(6 - 5x)(2 - x)$
22. In a class, the girls are 60% of the total number of students and the boys are 18 in number. How many students are there in the class?

23. Draw a parallelogram ABCD in which AB = 5 cm, AD = 4 cm, and the perpendicular distance between AB and CD is 3 cm.
24. What is Euler's formula? Verify the Euler's formula for a pentagonal prism.

Section D

(Questions 25 to 34 carry 4 marks each)

25. The monthly income of a family is Rs. 15000. The monthly expenditure of the family on various items is given below.

Items	Education	Rent	Food	Clothing	Savings
Expenditure (in Rs.)	2000	3500	6000	2500	1000

Represent the above data using a pie diagram.

26. The following table shows various modes of transport used by 1500 students of a school.

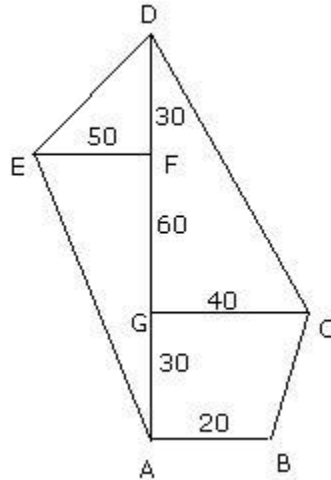
Mode of transport	Bicycle	Bus	Walk	Train	Car
Number of students	800	300	160	100	140

Draw the bar graph to represent the above data.

27. Mrs. Valdez and Mrs. Kim took polls of their second-grade classes to find their students' favourite colors. In Mrs. Valdez's class, 14 students said their favorite colour was blue and 6 said their favorite color was red. In Mrs. Kim's class, 8 voted for blue and 5 for red. Whose class had a higher ratio of students who preferred blue to students who preferred red?
28. A solid iron pole consists of a cylinder of height 220 cm and base diameter 24 cm, which is surmounted by another cylinder of height 60 cm and radius 8 cm. Find the mass of the pole, given that 1 cm³ of iron has approximately 8g mass. (Use $\pi = 3.14$)

29. The cost of 6 balls is Rs. 42. What would be the cost of 10 balls, 15 balls and 20 balls? Write them in the form of a table.

30. Find the area of following polygon, all dimensions are in meters.



31. Construct a kite ABCD with AC = 6 cm and BD = 4.8 cm. DB bisects AC in the ratio 1:2. Also, write the steps of construction.

32. A pair of jeans is marked down 30% and then is reduced at the cash register by another 10%. Is this a total reduction of 40%? Give reasons.

33. Find four rational numbers between $\frac{1}{2}$ and $\frac{1}{3}$.

34. Simplify.

(i) $x^0 \times y^0 \times z^0$

(ii) $\frac{(x^0 + y^0) \times 2^5}{2^4}$

(iii) $(4^6)^7$

(iv) $\frac{a^2 \times a^3 \times b^3 \times b^4}{a^5 \times b^2}$