CBSE Board
Class VIII Mathematics
Term II
Sample Paper 1

Time: 2 ½ hours | Total Marks: 80

General Instructions:

1. **All** questions are **compulsory**.
2. **Section A** comprises of **12** questions carrying 1 mark each.
3. **Section B** comprises of **12** questions carrying 2 marks each.
4. **Section C** comprises of **8** questions carrying 3 marks each.
5. **Section D** comprises of **5** questions carrying 4 marks each.

Section A
(Questions 1 to 12 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. Multiplicative inverse of $2\frac{2}{3}$ is _____ .

A. $\frac{8}{3}$

B. $-\frac{8}{3}$

C. $\frac{3}{8}$

D. 1

6. Janhavi types 480 words in 15 minutes. How many words would she type in 5 minutes?

A. 140
B. 150
C. 160
D. 170

7. If $\frac{6k+17}{k} = \frac{29}{2}$, then

A. 2
B. 3
C. 4
D. 5

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

9. A sector is drawn as $1/4^{th}$ part of a circle. The central angle made by it is

A. 90^o
B. 55^o
C. 45^o
D. 40^o

10. $a^2 - 2ab + b^2$

A. $(a - 2b)^2$
B. $(a - b)^3$
C. $(a - b)^2$
D. $(a + b)^2$

11. Which of the following points lie on the graph of "y = x"?

A. (1, 2)
B. (2, 1)
C. (2, 2)
D. (0, 1)

12. Which of the following number is divisible by 5 and 10 both?

A. 45
B. 405
C. 450
D. 412

Section B

(Questions 13 to 24 carry 2 marks each)

13. Using law of exponents, express each of the following as a rational number with positive exponents:

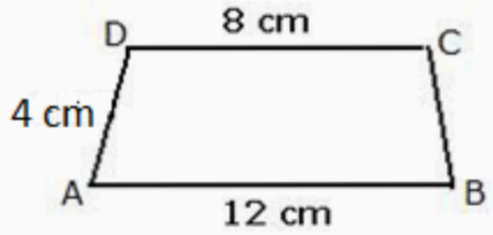
(i) $\left(2^5 \div 2^8\right) \times 2^{-7}$

(ii) $\left[\left(\frac{3}{2}\right)^{-2}\right]^3$

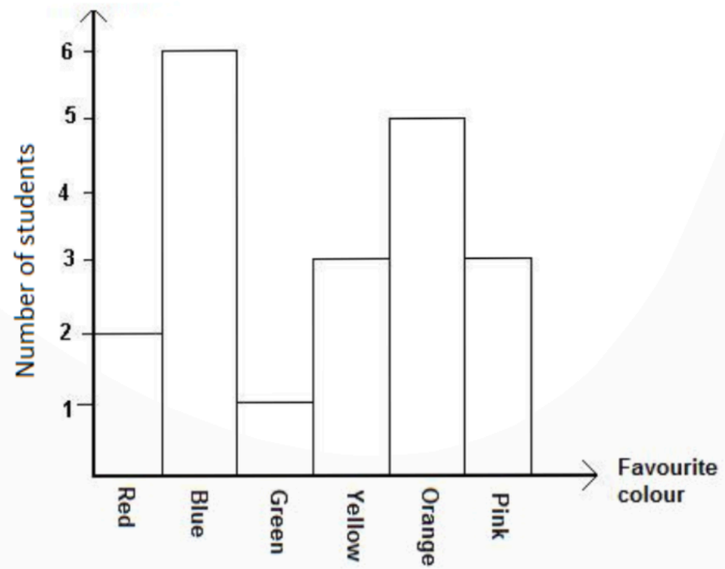
14. Which of the following numbers are divisible by 4?

(i) 45748
(ii) 21404

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



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



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

18. In a collection of 35 lotteries, there are 10 prizes and 25 blanks. A lottery is drawn at random. What is the probability of getting a prize?

19. Verify the identity $(a+b)^2 = a^2 + 2ab + b^2$; for a = 3 and b = -4.

20. Write the following numbers in generalized form.
(i) 45
(ii) 123

21. Find the height of cuboid whose volume is 800 cm^3, length is 20 cm and breadth is 10 cm.

22. In the following table, does x and y vary directly with each other?

x	5	7	9	11
y	15	21	36	33

23. If 6x pens cost Rs $12x^2 - 36x$, find the cost of one pen.

24. A polyhedron is having 8 vertices and 12 edges. Find the number of faces in this polyhedron.

Section C

(Questions 25 to 32 carry 3 marks each)

25. A's income is 60% more than that of B. By what percent is B's income less than A's?

26. Find the cube root of 5.832.

27. How many silver coins, 1.75 cm in diameter and of thickness 2 mm, must be melted to form a cuboids of dimensions5.5 cm × 10 cm × 3.5 cm?

28. 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?

29. Simplify: (5 – x) (6 – 5x) (2 – x)

30. What is Euler's formula? Verify the Euler's formula for a pentagonal prism.

31. 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.

32. Simplify.
(i) $x^0 \times y^0 \times z^0$
(ii) $\frac{(x^0 + y^0) \times 2^5}{2^4}$
(iii) $(4^6)^7$
$\frac{a^2 \times a^3 \times b^3 \times b^4}{a^5 \times b^2}$

Section D

(Questions 33 to 37 carry 4 marks each)

33. 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.

34. 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?

35. 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 cm^3 of iron has approximately 8g mass. (Use $\pi = 3.14$)

36. 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.

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