

Std. VIII Section : _____

Subject : Maths

Marks : 80

Date : _____

Term-I

Time : 3 Hrs.

Name : _____ Roll No. _____

General Instructions :

- 1) The question paper contains 38 questions divided into five sections A, B, C, D & E.
- 2) Question no. 1 to 20 in Section A carries one mark each.
- 3) Question no. 21 to 25 in Section B carries two marks each.
- 4) Question no. 26 to 31 in Section C carries three marks each.
- 5) Question no. 32 to 35 in Section D carries five marks each.
- 6) Question no. 36 to 38 in Section E carries four marks each.
- 7) All questions are compulsory.

Section A (each carries 1 mark)**20M**Q. 1 : Reciprocal of $-\frac{3}{4}$ is

- a) $\frac{4}{3}$ b) $\frac{3}{4}$ c) $-\frac{4}{3}$ d) 0

Q. 2 : $\left(-\frac{1}{3}\right)^3 = ?$

- a) $\frac{1}{9}$ b) $\frac{1}{9}$ c) $-\frac{1}{27}$ d) $\frac{1}{27}$

Q. 3 : Which of the following numbers is not a perfect square?

- a) 3600 b) 6400 c) 81000 d) 2500

Q. 4 : What least number must be multiplied to 3456 so that the product becomes a perfect cube?

- a) 2 b) 3 c) 4 d) 6

Q. 5 : The product of $3xy$ and $-9x^2yz$ is a _____.

- a) monomial b) binomial c) trinomial d) none of these

Q. 6 : The greatest common factor of $6a$ and $12b$ is _____.

- a) 6 b) 2 c) 3 d) 1

Q. 7 : In a square ABCD, $AB = (2x + 3)$ cm and $BC = (3x - 5)$ cm. The value of x is ____.

- a) 5 b) 7 c) 6 d) 8

Q. 8 : A coin is tossed 300 times and head appeared 180 times. The probability of getting a head in this experiments is _____.

- a) $\frac{2}{5}$ b) $\frac{1}{5}$ c) $\frac{3}{5}$ d) $\frac{4}{5}$

Q. 9 : The reciprocal of a negative rational number :

- a) is a positive rational number.

b) is a negative rational number.

c) can be either a positive or a negative rational number.

d) does not exist.

Q.10 : Which of the following is a Pythagorean triplet?

- a) (2, 3, 5) b) (5, 7, 9) c) (6, 9, 11) d) (8, 15, 17)

Q.11 : The side of a cube whose volume is $\frac{1331}{216} \text{ m}^3$,

- a) $\frac{11}{6} \text{ m}$ b) $\frac{11}{4} \text{ m}$ c) $\frac{9}{7} \text{ m}$ d) $\frac{9}{4} \text{ m}$

Q.12 : $x^2 + 6x + 8 = ?$

- a) $(x + 3)(x + 5)$ b) $(x + 3)(x + 4)$ c) $(x + 2)(x + 4)$ d) $(x + 1)(x + 8)$

Q.13 : The measure of each exterior angle of a 10 sided regular polygon is _____.

- a) 36° b) 30° c) 18° d) 35°

Q. 14 : Two coins are tossed simultaneously. What is the probability of getting one head and one tail?

- a) $\frac{1}{4}$ b) $\frac{1}{2}$ c) $\frac{3}{4}$ d) $\frac{2}{3}$

Q. 15 : Which quadrilateral has diagonals that are perpendicular to each other and bisect each other?

- a) Rectangle b) Rhombus c) Trapezium d) Parallelogram

Q. 16 : $\left(\frac{-5}{9} \div \frac{2}{3}\right) = ?$

- a) $\frac{-5}{2}$ b) $\frac{-5}{6}$ c) $\frac{-10}{27}$ d) $\frac{-6}{5}$

Q. 17 : $\sqrt[3]{216 \times 64} = ?$

- a) 69 b) 32 c) 24 d) 36

Q. 18 : Adjacent angles of a parallelogram are _____.

- a) equal b) complementary c) supplementary d) none of these

Q. 19 : Assertion (A): The probability of an impossible event is 110%.

Reasons (R) : The probability of an event lies between 0 and 1

- a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true and R is not the correct explanation of A.
c) A is true but R is false.
d) A is false but R is true.

Q. 20 : Assertion (A) : $7xy$, $8yx$, $4yx$, $3xy$ are like terms.

Reasons (R) : when the terms have same literal factors or variables, they are called unlike terms.

- a) Both A and R are correct and R is the correct explanation for A.
 b) Both A and R are correct but R is not the correct explanation for A.
 c) A is true but the R is false.
 d) Both A and R are false.

Section B (each carries 2 marks)

10M

Q.21 A) Express the following rational numbers in standard form :

a) $\frac{-28}{-72}$

b) $\frac{22}{-1331}$

OR

Q.21 B) Compare :

a) $\frac{-12}{15}$, $\frac{36}{-60}$

b) $\frac{-9}{11}$, $\frac{81}{-99}$

Q.22 : Express the following rational numbers in power notation :

i) $\frac{512}{1331}$

ii) $\frac{-243}{3125}$

Q.23 A) Evaluate :

i) $(3.5)^3$

ii) $\left(\frac{4}{7}\right)^3$

OR

Q.23 B) What is the smallest number by which 392 must be multiplied so that the product is a perfect cube?

Q.24 : Add : $-5m^2 + 10mn + 6n^2$ and $8m^2 - 3mn - 7n^2$

Q.25 : Factorise : $x^2 - 14x + 49$

Section C (each carries 3 marks)

18M

Q.26 : Simplify : i) $(4^{-1} + 8^{-1}) \div \left(\frac{2}{3}\right)^{-1}$ ii) $\left(\frac{1}{2}\right)^{-2} + \left(\frac{1}{3}\right)^{-2} + \left(\frac{1}{4}\right)^{-2}$

Q.27 A) The sum of two rational numbers is $\frac{2}{3}$. If one of the numbers is $\frac{-5}{2}$. Find the other.

OR

Q.27 B) Subtract the sum of $\frac{-3}{4}$ and $\frac{5}{6}$ from their product.

Q.28 : Find the square root of :

i) $\frac{1024}{1225}$

ii) 6561

Q.29 : Find the cube root of :

i) $\frac{13824}{42875}$

ii) 2744

Q.30 A) Subtract :

i) $3x^2 - 6x - 4$ from $5 + x - 2x^2$

ii) $5y^4 - 3y^3 + 2y^2 + y - 1$ from $4y^4 - 2y^3 - 6y^2 - y + 5$

OR

Q.30 B) Multiply :

i) $(3x + 5y)(5x - 7y)$

ii) $(3y - 8)(5y - 1)$

Q.31 : Factorise : i) $m^2 + 13m + 42$ ii) $x^2 + 25x - 54$ iii) $x^2 + 5x + 6$

Section D (each carries 5 marks)

20M

- Q.32 **A)** i) 1225 plants are to be planted in a garden in such a way that each row contains as many plants as the number of rows. Find the number of rows and the number of plants in each row.
ii) In an auditorium, the number of rows is equal to the number of chairs in each row. If the capacity of the auditorium is 2025. Find the number of chairs in each row.

OR

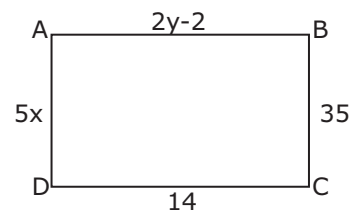
- Q.32 **B)** i) A cube has a volume of 4096 cm^3 , find the length of each edge.
ii) Find the square root of a) 27.3529 b) 9.8596

- Q.33 : Divide : i) $35x^2y^2$ by $-10xy$
ii) $x^3 + 6x^2 + 11x + 6$ by $x + 2$
iii) $12x^3 - 4x^2 + 20x$ by $4x$

- Q.34 : Using identities, factorise the following :

- i) $4x^2 + 20xy + 25y^2$
ii) $81p^4 - 256q^4$
iii) $81a^2b^2 - 180abc + 100c^2$

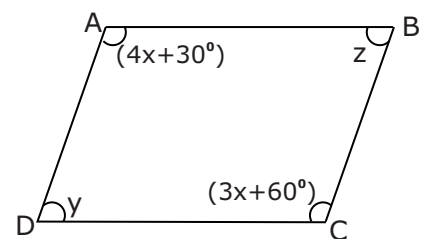
- Q.35 **A)** i) In the adjoining fig, ABCD is a rectangle.
Find the value of x and y.



- ii) The ratio of two adjacent angles of a parallelogram is 2:3. Find the measure of each of its angle.

OR

- B)** i) How many sides does a regular polygon have if each of its interior angle is 140° ?
ii) Find the values of unknown angles in the adjacent parallelogram.



Section E
(Each carries 4 marks)

12M

- Q.36 : Aditya who is working in multinational company earn ₹150000 per month.

Out of his earnings he spend $\frac{1}{10}$ th on food items, $\frac{1}{4}$ th on shopping with family, $\frac{1}{5}$ th of remaining on education of his two kids and rest of his money he puts in his savings.

On basis of this information given in the passage answer the following questions.

- i) How much money he spend on food items? 1M
- ii) How much money he spend on shopping? 1M
- iii) a) How much money was left with him after spending on food and shopping? 2M

OR

- b) How much money he saved?

Q.37 : In a class science teacher give some information to all students about solar system in the following manner.

Distance of Earth from sun = 149600000 km

Mass of earth = 5970000000000000000000000 kg

Mass of moon = 7350000000000000000000000 kg

Mass of Sun = 19900000000000000000000000000000 kg

Mass of Mars = 64200000000000000000000000000000 kg

Now asked them to answer some question.

- i) Write distance of earth from sun in standard form. 1M
- ii) Write mass of the sun in standard notation. 1M
- iii) a) Calculate the total mass of earth and moon? 2M

OR

- b) Calculate difference of mass of mars from mass of sun?

Q.38 : One day, during games period four friends A, B, C and D planned to play game using number cards. They prepared 20 number cards with labelled 1 to 20 and then they put all the number cards in the empty chalk box available in the class room. In this game, every friend was asked to pick the card randomly and after each draw, card was replaced back in the chalk box.

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20

- i) First boy pick the card and he get the card with an even number. 1M
Find the probability of getting an even number.
- ii) Second boy pick the card and he get the card with prime number. 1M
Find the probability of getting prime number.
- iii) a) What is the probability that the number is even and a multiple of 3 2M

OR

- b) What is the probability of selecting a number greater than 15 from 1 to 20?
