Bhavan's Tripura Vidyamandir

1st Terminal Examination : (2024-2025)

Class:- 8 **Subject:- Mathematics**

Time:- 3 Hours Total :- 80 Marks

Name of the student : Roll: Section:

General Instruction:

- **Section A** contains 15 questions (1 to 15) each carries 1 mark.
- **Section B** contains 1 case-study (16 to 20) each carries 1 mark.
- **Section C** contains 10 questions (21 to 30) each carries 2 marks.
- **Section D** contains 8 questions (31 to 38) each carries 3 marks.
- **Section E** contains 4 questions (39 to 42) each carries 4 marks.

SECTION-A **1×15=15**

1. The product of two rational numbers is always a ___.
   a) Negative No. b) Rational No. c) Positive No. d) None of these
2. The value of "x" in the equation 3x = 2x + 8 is ___.
   a) 5 b) 6 c) 8 d) 7
3. The measure of each exterior angle of a regular polygon of 9 sides is ___.
   a) 30° b) 35° c) 40° d) 60°
4. The product of $4p^3$, -3p is ___.
   a) $12p^4$ b) $-12p^4$ c) $12p^3$ d) $-12p^3$
5. The standard form of 4050000 is ___.
   a) 4.05×10^3 b) 4.05×10^5 c) 4.05×10^6 d) 4.05×10^7
6. The value of $(-2)^3$ is _____.
   a) 8 b) $\frac{1}{8}$ c) -8 d) 0
7. Zero is called the identity for the……of rational numbers.
   a) Addition b) subtraction c) Multiplication d) Division
8. Double bar graphs display……sets of data simultaneously.
   a) One b) two c) three d) Four
9. If a coin is flipped in the air, what is the probability of getting a tail?
   a) 1 b) $\frac{1}{2}$ c) 2 d) 0
10. The value of x: $2x - 3 = 7$
    a) 2 b) 5 c) 3 d) 7
11. Which pair of the expressions below is like term?
    a) $7x$ and $7y$ b) $7x$ and $9x$ c) $7x$ and 7w d) $7x$ and $7xy$
12. If x and y are directly proportional, then which of the following is correct?
    a) $x + y$ =constant b) $x - y$ =constant c) xy =constant d) $\frac{x}{y}$ =constant
13. Which of the following are in inverse proportion?
    a) Area of cultivated land and the crop harvested.
    b) More money deposited in a bank, more is the interested earned.
    c) If the no. of articles purchased increases, the total cost also increases.
    d) The number of workers on a job and the time to complete the job.
14. $a^m \times b^m$ =……
    a) ab^m b) (ab) c) $(ab)^m$ d) $\frac{a}{b}$
15. $5x + 7x - 8$ is a:
    a) Monomial b) Binomial c) Trinomial d) None

Section-B (Case Study) $1\times 5 = 5$

A group of class-VIII students were asked to vote for their favorite colour from the four colours Blue, Green, Red and Yellow. Observe the pie-chart (Figuue-1) and answer the following questions:

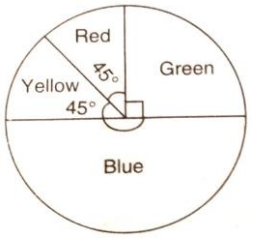

Fig.1

16. The proportion of sector for red is ___.
    a) $\frac{1}{2}$ b) $1\frac{1}{4}$ c) $\frac{1}{8}$ d) $\frac{1}{3}$
17. The difference of the central angles for green and blue is ___.
    a) 45° b) 90° c) 180° d) 22.5°
18. Which colour has greater central angle?
    a) Red b) Blue c) Green d) Yellow
19. Which colour got most votes?
    a) Blue b) Red c) Yellow d) Green
20. Which colour got equal votes?
    a) Blue and Green b) Red and Green
    c) Yellow and Red d) None of these

SECTION-C $2\times 10 = 20$

21. Find: $\frac{4}{5}\times\frac{3}{7}\times\frac{15}{16}$
22. Tell what property allows you to compute $\frac{1}{3}\times(6\times\frac{4}{3})$ as $(\frac{1}{3}\times 6)\times\frac{4}{3}$.
23. Solve the linear equation and check your result: $5x + 9 = 5 + 3x$
24. Find the Value of x (Figure-2)
25. An electric pole, 14 metres high, cast a shadow of 10 metres. Find the height of a tree that casts a shadow of 15 metres under same conditions.
26. Simplify and express the result in power notation with positive exponent: $(2)^{-3}\times(7)^{-3}$
27. Add the following: ab – bc, bc – ca, ca – ab
28. Express the $\frac{216}{343}$ as power of rational number.
29. Find the product: $(\frac{15}{4}ab^2c)\times(\frac{2}{5}a^3bc)$
30. List the outcomes you can see in these experiments.
    (a) Spinning a wheel (See Fig.3)
    (b) Tossing two coins together

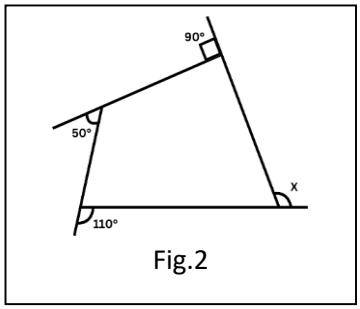

Fig.2

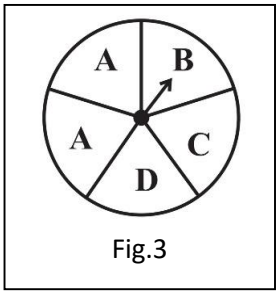

Fig.3

SECTION-D $3 \times 8 = 24$

31. Find the product: (5 - 2x) (3 + x)
32. The measure of two adjacent angles of parallelogram are in the ratio 3:2. Find the measure of each of the angles of the parallelogram.
33. State whether True or False:
    i) All rectangles are squares.
    ii) All rhombuses are parallelogram.
    iii) All squares are rhombus and also rectangle.
34. A machine in a soft drink factory fills 840 bottles in six hours. How many bottles will it fill in five hours.
35. Add the expressions: $4x^3 - 12x^2y + 11xy^2 - 10$, $-5y^3+5x^2y - 3y^2x$ and $7x^2y - 10xy^2$
36. Simplify and solve the following linear equation: $3(t - 3) = 5(2t + 1)$
37. Find: $\frac{-4}{5} \times \frac{3}{7} \times \frac{15}{16} \times (\frac{-14}{9})$
38. A group of 180 students were asked to vote for their favourite season from the three seasons rainy, winter and summer. Draw the pie-chart to show the information from the given table

Season	No. of Votes
Summer	45
Rainy	60
Winter	75

SECTION-E $4 \times 4 = 16$

39. Two persons could fit new windows in a house in 3 days. One of the persons fell ill before the work started. How long it would the job take now? How many persons would be needed to fit the window in one day?

(2+2)

40. Simplify using suitable the law of Exponents: $\frac{3^{-5} \times 10^{-5} \times 125}{5^{-7} \times 6^{-5}}$
41. When a dice is thrown, list the outcomes of an event of getting:
    i) A prime number
    ii) Not a prime number
    iii) A number greater than 5
    iv) A number not greater than 5 [1+1+1+1]
42. Simplify $3a(4a - 5) + 3$ and find its values for (i) a = 3 (ii) a = 0

[2+1+1]