

Brihan Mumbai Ganit Adhyapak Mandal, Mumbai

Date : 5-8-2023

Maths Concept Exam 2023

Time : 3 p.m. to 5 p.m.

Std. : VIII

Marks : 100

- Instructions :
- 1) Question paper and answersheet are separate.
 - 2) Rough work is to be done in the space provided in each page of the question paper.
 - 3) Do not fold the answersheet.
 - 4) Colour the correct alternative with the ball-pen as follows.

For Example : How many days does the month of March have ?
A) 30 B) 31 C) 29 D) 28
Correct answer is B; so B should be coloured as shown below.

A) B) C) D)

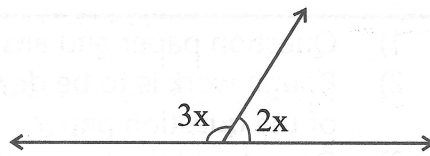
- 1) What is the measure of each exterior angle of an equilateral triangle ?
A) 60° B) 120° C) 150° D) 180°
- 2) The point of intersection of medians of a triangle is known as _____.
A) Orthocentre B) Circumcentre C) Incentre D) Centroid
- 3) $15x^2y \div 9xy^2 = ?$
A) $\frac{5x}{3y}$ B) $\frac{5xy}{3}$ C) $\frac{5}{3xy}$ D) $\frac{3x}{5y}$
- 4) Six workers can complete a work in 5 days. How many workers are required to complete the same work in 3 days ?
A) 2 B) 8 C) 10 D) 18
- 5) Solve : $\frac{1}{5} + \frac{7}{15} - \frac{2}{10} = ?$
A) $\frac{6}{15}$ B) $\frac{7}{15}$ C) $\frac{3}{5}$ D) $\frac{7}{10}$

6) Circumference of a circle is 44cm. Find its radius.

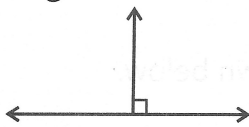
- A) 7 cm. B) 14 cm. C) 3.5 cm. D) 7.5 cm.

7) In the adjoining figure, find the value of x.

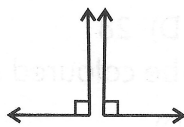
- A) 180 B) 90
C) 36 D) 8



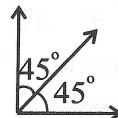
8) Which of the following figures represents a pair of adjacent, complementary and congruent angles?



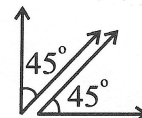
A)



B)



C)



D)

9) Find the side of a square whose area and perimeter are equal.

- A) $\sqrt{2}$ units B) 4 units C) 2 units D) 1 unit

10) In how many years the principal amount of Rs. 1000 will be doubled, if the rate of simple interest is 5 p.c.p.a. ?

- A) 20 years B) 5 years C) 10 years D) 12 years

11) Find the ratio of 2500 gm. to 3 kg.

- A) 25 : 3 B) 250 : 3 C) 5 : 6 D) 6 : 5

12) Rama bought a mobile phone for Rs. 50,000 and sold it for Rs. 30,000 after 2 years. Find her percentage loss.

- A) 30% B) 20% C) 4% D) 40%

13) $x^{\frac{1}{3}} \times x^9 = x^{\square}$. Which of the following numbers is in the box?

- A) 3 B) $\frac{28}{3}$ C) $-\frac{26}{3}$ D) $\frac{26}{3}$

- 14) $(-3\frac{2}{7}) \times (-1\frac{5}{6}) = ?$
A) $3\frac{5}{21}$ B) $9\frac{1}{7}$ C) $-6\frac{1}{42}$ D) $6\frac{1}{42}$
- 15) A $21\frac{1}{4}$ m. long rope was cut into equal pieces of $4\frac{1}{4}$ m. each. How many pieces will be obtained?
A) 8 B) 7 C) 6 D) 5
- 16) Which of following numbers is not a perfect square?
A) 729 B) 1024 C) 243 D) 1296
- 17) Which of the following is a 3-dimensional figure?
A) Parallelogram B) Cylinder C) Square D) Rectangle
- 18) How many axes of symmetry does a kite have?
A) 0 B) 1 C) 2 D) 3
- 19) HCF of $6abc$, $24ab^2$, $12a^2b$ is _____
A) $6ab$ B) $6ab^2$ C) $24a^2b^2$ D) $6abc$
- 20) $a \times (b-c) + b \times (c-a) + c \times (a-b) = ?$
A) $ab+bc+ac$ B) 0
C) $2(ab+bc+ac)$ D) $3abc$
- 21) The average of scores 5, 8, 0, x, 6, 3 is 4, then $x = ?$
A) 6 B) 4 C) 2 D) 4.4

- 22) Find the selling price of a T-Shirt if 12% discount is given on the marked price of Rs. 575.
A) ₹ 563. B) ₹ 644 C) ₹ 506 D) ₹ 587
- 23) The length, breadth and the height of a cuboid are 5cm., 2.5 cm., 1.5cm. respectively. Find its total surface area.
A) 47.50 sq. cm. B) 23.75 sq. cm. C) 16.25 sq. cm. D) 20 sq. cm.
- 24) $0.11 \times 1.1 = ?$
A) 11 B) 121 C) 1.21 D) 0.121
- 25) If Tutari Express leaves Dadar at 0.05. At which time does it leave according to 12 hour clock?
A) 1.05 a.m. B) 12.50 a.m. C) 12.05 a.m. D) 12.50 p.m.
- 26) If the diagonals of square ABCD intersect each other at the point P, then find the value of $m\angle BAP$.
A) 45° B) 90° C) 60° D) 180°
- 27) If a pentagonal prism has 7 faces and 15 edges then find its number of vertices.
A) 15 B) 22 C) 8 D) 10
- 28) Write the proper sign from $>$, $<$, $=$, \leq in the box,
 $\frac{13}{2} \square (5 + \frac{3}{2})$
A) $<$ B) $>$ C) $=$ D) \leq

- 29) Given that $\sqrt{1521} = 39$. Find the value of $\sqrt{0.1521} + \sqrt{15.21}$
- A) 42.9 B) 4.29 C) 3.51 D) 35.1
- 30) $(\frac{a}{2} - \frac{b}{5})^2 = ?$
- A) $\frac{a^2}{4} - \frac{b^2}{25}$ B) $\frac{a^2}{4} + \frac{b^2}{25}$
 C) $\frac{a^2}{4} - \frac{ab}{5} + \frac{b^2}{25}$ D) $\frac{a^2}{4} + \frac{2ab}{5} + \frac{b^2}{25}$
- 31) Find the perimeter of a semicircle having radius 14 cm.
- A) 4.4 cm. B) 72 cm. C) 58 cm. D) 88 cm.
- 32) Find the value of $(2^{-1} \times 4^{-1}) \div 2^{-2}$
- A) 8 B) $\frac{1}{8}$ C) $\frac{1}{6}$ D) $\frac{1}{2}$
- 33) If we arrange the following numbers in descending order then the second number will be ____
- $\frac{-3}{10}, \frac{-2}{3}, \frac{-4}{5}, 0, \frac{7}{8}$
- A) $\frac{-2}{3}$ B) $\frac{-3}{10}$ C) 0 D) $\frac{-4}{5}$
- 34) 7% of 7 = ?
- A) 0.49 B) 4.90 C) 4.09 D) 4.009

- 35) Radha invested some amount at the rate of 10 p.c.p.a. and got Rs. 32500 after 3 years by simple interest. Find the principal amount.
- A) ₹25000 B) ₹28000 C) ₹27000 D) ₹26000
- 36) If the measures of the angles of a quadrilateral are in the ratio 1 : 2 : 3 : 4, then the measure of the largest angle is _____.
- A) 360° B) 180° C) 144° D) 120°
- 37) If $3x - (x - 1) = 7$, then find x.
- A) 2 B) 3 C) 0 D) -2
- 38) If $x^2 + \frac{1}{x^2} = 18$, then the value of $x - \frac{1}{x} = ?$
- A) 10 B) 8 C) 4 D) $\sqrt{20}$
- 39) If the number 936* is divisible by 9, what can be the digit at * ?
- A) 3 or 9 B) 1 or 9 C) 1 or 3 D) 0 or 9
- 40) Sides of the triangle are given below. Find out which is a right angled triangle.
- A) 3, 4, 7 B) 11, 60, 61 C) 7, 8, 9 D) 7, 23, 24
- 41) Measure of an arc is 100° . What is the measure of its corresponding major arc ?
- A) 180° B) 80° C) 260° D) 160°

- 42) A square of side 10cm. and a rectangle have equal areas. If the length of the rectangle is 16cm., find its breadth.
- A) 10 cm. B) 6 cm. C) 6.25 cm. D) 6.6 cm.
- 43) Cost of half dozen mangoes is Rs. 300. What is the cost of 10 mangoes ?
- A) ₹ 450 B) ₹ 200 C) ₹ 350 D) ₹ 500
- 44) What is the weight of 20 packets, if each packet weighs $6\frac{2}{5}$ kg. ?
- A) $100\frac{2}{5}$ kg. B) $120\frac{4}{5}$ kg. C) 128 kg. D) 100 kg. 500 gms.
- 45) Express $4\frac{11}{125}$ in decimal fraction.
- A) 4.088 B) 4.8 C) 4.08 D) 0.408
- 46) If $(2x + 5)^\circ$, $(x + 15)^\circ$ and x° are measures of the angles of a triangle, Find x.
- A) 50 B) 40 C) 180 D) 75
- 47) The number 0.000000145 is written in standard form as _____
- A) 14.5×10^{-8} B) 1.45×10^{-6} C) 0.145×10^{-8} D) 1.45×10^{-10}
- 48) $(\frac{-4}{7} x^2 y) \times (\frac{-2}{3} y^2 z) \times (\frac{-7}{6} x z^2) = ?$
- A) $\frac{-4}{9} x^3 y^3 z^3$ B) $\frac{4}{9} x^3 y^3 z$ C) $\frac{-4}{9} x y z^2$ D) $\frac{4}{7} x^3 y^3 z^3$

49) $\frac{3}{7}$ part of a number is 12. Find the number.

A) 28

B) 42

C) 35

D) 17

50) An angle greater than 180° but less than 360° is called _____

A) Straight angle

B) Complete angle

C) Obtuse angle

D) Reflex angle.
