

CADET COLLEGE KALLAR KAHAR
ENTRANCE TEST FOR CLASS 8TH – 2018 ENTRY
PAPER MATHEMATICS

Note: All Questions are compulsory. Use of calculator is not allowed. All questions carry equal marks.

- Q1 a After 32 years from now a boy will be 5 times as old as he was 8 years back. How old is the boy now?
- b Subtract $2x^6 + 3x^3 - 2$ from the sum of $3x^6 - 3x^2 + 5x$ and $x^4 - 2x^3 + 3x - 5$
- Q2 a Find the boundary of square field whose area is 784m^2
- b Find $a^3 + b^3$ if $a + b = 3$ and $ab = 2$
- Q3 a A 96cm long wire is given the shape of a rectangle such that its length is 12cm more than the breadth. Find the length and breadth of rectangle.
- b When $\frac{22}{7}$ is irrational why $\frac{11}{3}$ is rational?
- Q4 a Height of an oil drum is 250cm its radius is 70cm. Find the volume and capacity of cylinder in litre.
- b Simply $(x^5 - y^5) \div (x - y)$
- Q5 a Find square root of 180.9025 by division method.
- b The radius of circle is 4.7cm. Find its circumference.
- Q6 a 1225 students stand in rows in such a way that the number of rows is equal to number of students in a row. How many students are there in each row?
- b Find power set . If $A = \{+, \div, -\}$
- Q7 a A ladder 25ft long is placed against a wall. If its upper end reaches the height of 24ft along the wall, then find the distance of foot of the ladder from the wall.
- b Haris sold a bicycle for rupees 3978 and got 17% profit. Find the cost price of bicycle.

Entrance Test– Class 8th 2019Paper: Mathematics

Note: All questions are compulsory. Calculators are not allowed.

Q No. 1: Solve the following questions.

- Prove that $a^0=1$ where a is non-zero rational number.
- Simplify $(4^7 \div 4^5) \times 2^2$
- If $A=\{a,b,c,d\}$ and $B=\{a,c,e,g\}$ verify the commutative property of union.
- Prove that $(\frac{1}{4} + \frac{1}{2}) + \frac{1}{5} = \frac{1}{4} + (\frac{1}{2} + \frac{1}{5})$.
- Find value of X ; $\frac{x}{3} - 7 = 2$.

Q No. 2 (a): A number is half of another number. The sum of 3 times of first number and 4 times of 2nd number is 22. Find the numbers.

Q No 2 (b): If $x=3$, $y= -2$, $c= -1$ then find $\frac{x+c}{2y} \times \frac{x+y}{c}$.

Q No 3 (a): If $U=\{1,2,3,4,\dots\dots\dots 20\}$, $A=\{1,3,5,\dots\dots\dots 19\}$, $B=\{2,4,\dots\dots\dots 20\}$ Prove $A^c = B$

Q No. 3 (b): Find the area of an isosceles triangle ABC in which $m\overline{AB}=m\overline{AC}=6\text{cm}$ and $m\overline{BC}=8\text{cm}$.

Q No. 4 (a): if $x + \frac{1}{x} = 5$ then find value of $x^2 + \frac{1}{x^2}$.

Q No. 4 (b): The area of a rectangular park is equal to another square shaped park. Find the length of a square shaped park if the length and breadth of the rectangular park are 81m and 25m respectively.

Q No. 5 (a): Construct the parallelogram ABCD if $m\overline{AB}=4\text{cm}$ $m\overline{CB}=3\text{cm}$
 $m\overline{AC}=6\text{cm}$.

Q No 5 (b): Find power set if $A=\{a,e,i,o,u\}$.

Q NO 6 (a): Find square root of 585225 by division method.

Q No 6 (b): The diameter of the wheel of Ahmed bicycle is 0.72m. The bicycle wheel completes 750 revolutions when Ahmed comes from school to house. Find distance between school and house.

Entrance test 8th Class 2022Paper: Mathematics

Note: All questions are compulsory. Calculators are not allowed. Write down formula where necessary and solve questions step by step.

All questions carry equal marks.

Q No. 1 (a): Subtract $2x^6+3x^2+2$ from the sum of $3x^6-3x^2+5x$ and x^4-2x^3+3x-5
(b): Simplify $x^2+8x+16$

Q No. 2 (a): A 96cm long wire is given the shape of a rectangle such that its length is 12cm more than the breadth .Find the length and breadth of the rectangle.

(b): Find the solution of the following $\frac{x+6}{2} = \frac{x+4}{3}$

Q No. 3 (a): After 42 years from now , a Cadet will be 5 times as old as he was 8 years back. How old is the boy now.

(b): The radius of circle is 14.3cm.find the area of the circle.

Q No. 4 (a): When $\frac{22}{7}$ is irrational why 96 is rational number?

(b): Find the power set if $A=\{2,4,6\}$

Q No. 5 (a): Ali sold a car for rupees 1125000 and got 10% profit. find the cost price of car.

(b): If $U=\{1,2,3..10\}$ and $B=\{1,3,7,9\}$ find B^c

Q No. 6 (a): Find the square root of 585225 by division method.

(b): If $A=N,B=W$ then Find $A \cup B$ and $B \cap A$, where N is the Natural and W is the whole Number.

Q No. 7 (a): The length of the minute hand of a clock is 3.5 cm. Find the distance covered by the pointer of a minute hand in 3 hours.

(b): Simplify $(a^5-b^5) \div (a-b)$

Entrance test 8th Class 2023Paper: Mathematics

Note: All questions are compulsory. Calculators are not allowed. Write down formula where necessary and solve questions step by step.

All questions carry equal marks.

Q No. 1 Write the product of $(3y + 9)(7y - 3)$

Q No. 2 Simplify: $\frac{1}{4} + \frac{1}{8} - \frac{1}{3}$

Q No. 3 Find the length of a boundary of a square field whose area is 784m^2 .

Q No. 4 Prove that $b^0=1$ where b is non-zero rational number.

Q No. 5 Factorize: $a^4b^4x^2 - 2a^2b^2c^2d^2xy + c^4d^4y^4$

Q No. 6 Find the solution of following equation and verify the solution.

$$\frac{y+6}{2} = \frac{y+4}{3}$$

Q No. 7 Construct an equilateral triangle ΔXYZ whose base is 4.5 cm.

Q No. 8 If the base = 6 cm and Hypotenuse = 10 cm. Find perpendicular?

Q No. 9 The product of two polynomials is $6t^3 - 11t^2 + 6t - 1$. If one polynomial is $3t^2 - 4t + 1$, then find the other polynomial.

Q No. 10 Simplify and write in descending order: $4 + x^3 + x^4 - x^2 - x + 8 + 2x^4$

Q No. 11 Complete pattern:

(i) 2, 3, 5, 7, __, __, __, 19

(ii) 6, 11, 16, __, __, __,

Q No. 12 Simplify: $\frac{x^2z - 5z^2}{xyz}$ if $x = -1$, $y = -2$, $z = 2$

ENTRANCE TEST FOR CLASS 8TH – 2024 ENTRYPAPER - MATHEMATICS

Note: All questions are compulsory. Calculators are not allowed. Write down formula where necessary and solve questions step by step.

All questions carry equal marks.

Q No. 1 Factorize $144a^2 + 24a + 1$.

Q No. 2 Find the product $(x^2 + 3x + 2)(x^2 - 3)$

Q No. 3 Prove the associative law $(\frac{3}{4} + \frac{5}{2}) + \frac{1}{2} = \frac{3}{4} + (\frac{5}{2} + \frac{1}{2})$

Q No. 4 If base = 4 cm and hypotenuse = 5 cm, find perpendicular?

Q No. 5 Find the value of $\frac{x^3y-2z}{xz}$ if $x = 3$, $y = -1$ and $z = -2$.

Q No. 6 Construct an equilateral triangle ΔXYZ whose one side is 4.5cm.

Q No. 7 Find the square root of $\frac{289}{625}$ by division method.

Q No. 8 Divide the polynomial $8a^5b^2 - 10a^5b^4 + 4a^2b^2$ by $2a^2b^2$

Q No. 9 If $a + b = 10$, $ab = 6$, find the value of $a^2 + b^2$

Q No. 10 Factorize $x^2 - y^2 - 4x - 2y + 3$

Q No. 11 If sum of two polynomials is $6p^3 + 4p^2 + 8p + 12$. If one polynomial is $p^3 + 2p^2 + 3p + 2$, then find other polynomial.

Q No. 12 Ali is 5 years younger to Rasheed. Two years later, Rasheed will be twice as old as Ali. Find their present ages.

ENTRANCE TEST FOR CLASS 8TH – 2024 ENTRYPAPER - MATHEMATICS

Note: All questions are compulsory. Calculators are not allowed. Write down formula where necessary and solve questions step by step.

All questions carry equal marks.

- Q No. 1** Find square root by division method of 29241.
- Q No. 2** Find the solution set by using cross –multiplication method
 $2x-3y=6$, $3x+5y=0$
- Q No. 3** Find the area of triangle by using Hero’s Formula. If sides of triangle are 14cm, 10cm ,16cm.
- Q No. 4** Factorize by using middle term break method $x^2 + 14x + 48$
- Q No. 5** Adnan is 7 years older than Adeel. Find their ages when $\frac{1}{4}$ of Adnan’s age is equal to the $\frac{1}{2}$ of Adeel’s age.
- Q No. 6** Solve the equation $\frac{y+5}{2}=10$
- Q No. 7** The area of square is 144 cm^2 . Find its length.
- Q No. 8** Find the area of circle if its radius is 10 cm.
- Q No. 9** If $U=$ Set of whole numbers, $A=$ Null set, $B=$ Set of natural numbers find De-Morgan’s Law.
- Q No. 10** A rectangular field has an area 18432 square meters. Its width is half as long as its length, find its perimeter.
- Q No. 11** If base = 3 cm, hyp = 5, find its base.
- Q No. 12** Construct an equilateral triangle XYZ, if its one side is 4.5 cm.