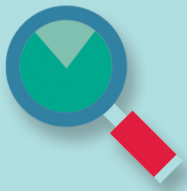




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QUESTION BANK
with complete solutions



Class
8



MATHEMATICS

COMBINED FOR TERM 1 & 2

**FORMATIVE & SUMMATIVE
ASSESSMENT**



HIGHLIGHTS

- Strictly as per the NCERT Curriculum
- Chapterwise Synopsis for clarity of concepts
- Variety of questions from NCERT Textbooks
- Activities for Formative Assessment
- Summative Assessment Questions includes MCQs, VSA, SA and Long Answer Questions
- Includes HOTS & Value Based Questions
- Answers follow the marking scheme and the prescribed word limit





CBSE Continuous and Comprehensive Evaluation (CCE)

QUESTION BANK

WITH COMPLETE SOLUTIONS



Mathematics

Class

8

For Term I and 2

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PREFACE

Year after year CBSE has been introducing changes in the curriculum of various classes. We, at Oswaal Books, closely follow every change made by the Board and endeavor to equip students with the latest study material to prepare for the Examinations.

The latest offering from us are these Question Banks. These will provide comprehensive practice material for every chapter. These are prepared by experienced teachers who have translated their expertise into making important questions from every chapter in order to facilitate wholesome learning of every concept.

Highlights of our Question banks:

- Question Bank strictly as per the NCERT Curriculum
- Variety of Questions from NCERT Textbooks
- A synopsis of the important points from every chapter
- Value Based Questions as specified by CBSE Board
- Answers follow the marking scheme and the prescribed word limit

We feel extremely happy to offer our Question Banks and hope that with them, every student will discover a more thorough way of preparing and thereby excelling in their examinations. Though we have taken enough care to ensure our products to be error free, yet we welcome any feedback or suggestions that come our way for improvisation.

We wish you good luck for the forthcoming academic year!!

-Publisher

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QUESTION BANK

Mathematics, Class-VIII

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Mathematics Syllabus

Number System

(50 hrs)

(i) Rational Numbers:

- Properties of rational numbers. (including identities).
- Using general form of expression to describe properties
- Consolidation of operations on rational numbers.
- Representation of rational numbers on the number line
- Between any two rational numbers there lies another rational number (Making children see that if we take two rational numbers then unlike for whole numbers, in this case you can keep finding more and more numbers that lie between them.)
- Word problem (higher logic, two operations, including ideas like area)

(ii) Powers

- Integers as exponents.
- Laws of exponents with integral powers

(iii) Squares, Square roots, Cubes, Cube roots.

- Square and Square roots
- Square roots using factor method and division method for numbers containing (a) no more than total 4 digits and (b) no more than 2 decimal places
- Cubes and cubes roots (only factor method for numbers containing at most 3 digits)
- Estimating square roots and cube roots. Learning the process of moving nearer to the required number.

(iv) Playing with numbers

- Writing and understanding a 2 and 3 digit number in generalized form ($100a + 10b + c$, where a, b, c can be only digit 0-9) and engaging with various puzzles concerning this. (Like finding the missing numerals represented by alphabets in sums involving any of the four operations.) Children to solve and create problems and puzzles.
- Number puzzles and games
- Deducing the divisibility test rules of 2, 3, 5, 9, 10 for a two or three-digit number expressed in the general form.

Algebra

(20 hrs)

(i) Algebraic Expressions

- Multiplication and division of algebraic exp. (Coefficient should be integers)
- Some common errors (e.g. $2 + x \neq 2x$, $7x + y \neq 7xy$)
- Identities $(a \pm b)^2 = a^2 \pm 2ab + b^2$, $a^2 - b^2 = (a - b)(a + b)$
- Factorisation (simple cases only) as examples the following types
- $a(x + y)$, $(x \pm y)^2$, $a^2 - b^2$, $(x + a).(x + b)$
- Solving linear equations in one variable in contextual problems involving multiplication and division (word problems) (avoid complex coefficient in the equations)

Ratio and Proportion

(25 hrs)

- Slightly advanced problems involving applications on percentages, profit & loss, overhead expenses, Discount, tax.
- Difference between simple and compound interest (compounded yearly up to 3 years or half-yearly up to 3 steps only), Arriving at the formula for compound interest through patterns and using it for simple problems. Direct variation – Simple and direct word problems Inverse variation – Simple and direct word problems.

- ♦ Time & work problems—Simple and direct word problems

Geometry

(40 hrs)

(i) Understanding shapes:

- Properties of quadrilaterals – Sum of angles of a quadrilateral is equal to 3600 (By verification)
- Properties of parallelogram (By verification)
 - Opposite sides of a parallelogram are equal,
 - Opposite angles of a parallelogram are equal,
 - Diagonals of a parallelogram bisect each other. [Why (iv), (v) and (vi) follow from (ii)]
 - Diagonals of a rectangle are equal and bisect each other.
 - Diagonals of a rhombus bisect each other at right angles.
 - Diagonals of a square are equal and bisect each other at right angles.

(ii) Representing 3-D in 2-D

- ♦ Identify and Match pictures with objects [more complicated e.g. nested, joint 2-D and 3-D shapes (not more than 2)].
- ♦ Drawing 2-D representation of 3-D objects (Continued and extended)
- ♦ Counting vertices, edges & faces & verifying Euler's relation for 3-D figures with flat faces (cubes, cuboids, tetrahedrons, prisms and pyramids)

(iii) Construction:

Construction of Quadrilaterals:

- ♦ Given four sides and one diagonal
- ♦ Three sides and two diagonals. Three sides and two included angles. Two adjacent sides and three angles.

Mensuration

(15 hrs)

- Area of a trapezium and a polygon.
- Concept of volume, measurement of volume using a basic unit, volume of a cube, cuboid and cylinder
- Volume and capacity (measurement of capacity)
- Surface area of a cube, cuboid, cylinder.

Data handling

(15 hrs)

- Reading bar-graphs, ungrouped data, arranging it into groups, representation of grouped data through bar-graphs, constructing and interpreting bar-graphs.
- Simple Pie charts with reasonable data numbers
- Consolidating and generalising the notion of chance in events like tossing coins, dice etc. Relating it to chance in life events. Visual representation of frequency outcomes of repeated throws of the same kind of coins or dice. Throwing a large number of identical dice/coins together and aggregating the result of the throws to get large number of individual events. Observing the aggregating numbers over a large number of repeated events. Comparing with the data for a coin. Observing strings of throws, notion of randomness

Introduction to graphs

(15 hrs)

PRELIMINARIES:

- Axes (Same units), Cartesian Plane
- Plotting points for different kind of situations (perimeter vs length for squares, area as a function of side of a square, plotting of multiples of different numbers, simple interest vs number of years etc.)
- Reading off from the graphs Reading of linear graphs Reading of distance vs time graph

SAMPLE QUESTION PAPER
Summative Assessment-I
Mathematics
Class – VIII

Time : 2.30 Hrs.

M. M. 40

General Instructions :

- All questions are compulsory.
- The question paper consists of 17 questions divided into four sections A, B, C and D.
- Section A contains 5 questions of 1 mark each.
Section B contains 4 questions of 2 marks each.
Section C contains 5 questions of 3 marks each.
Section D contains 3 questions of 4 marks each.
- There is no overall choice in the paper. However an internal choice is provided in one question of 2 marks, one question of 3 marks and one question of 4 marks.
- Use of Calculators is not permitted.

SECTION 'A'

- Which of the following is the product of $\left(\frac{-7}{8}\right)$ and $\frac{2}{21}$?
(A) $-\frac{1}{12}$ (B) 12 (C) $-\frac{63}{16}$ (D) $-\frac{16}{147}$
- Which value of y will satisfy the given equation?
$$\frac{y}{2y-15} = \frac{7}{9}$$

(A) $y = 21$ (B) $y = 23$ (C) $y = 25$ (D) $y = 27$
- Diagonals of a rhombus intersect each other at :
(A) 0° (B) 90° (C) 110° (D) 180°
- To construct a rectangle, you must have one side and :
(A) its opposite side (B) its adjacent side (C) two angles (D) four angles
- $\sqrt[3]{\frac{64}{343}} = ?$
(A) $\frac{4}{9}$ (B) $\frac{4}{7}$ (C) $\frac{8}{7}$ (D) $\frac{8}{21}$

SECTION 'B'

- Simplify : $\frac{16}{39} + \frac{9}{-26}$

Or

Solve the equation :

$$\frac{x}{2} - \frac{1}{5} = \frac{x}{3} + \frac{1}{4}$$

- How many diagonals does each of the following have ?
(a) A convex quadrilateral (b) A regular hexagon
- Construct a quadrilateral *LIFT*, where $LI = 4$ cm, $IF = 3$ cm, $TL = 2.5$ cm, $LF = 4.5$, $IT = 4$ cm.
- Is 2352 a perfect square ? If not, find the smallest multiple of 2352 which is a perfect square. Find the square root of the new number.

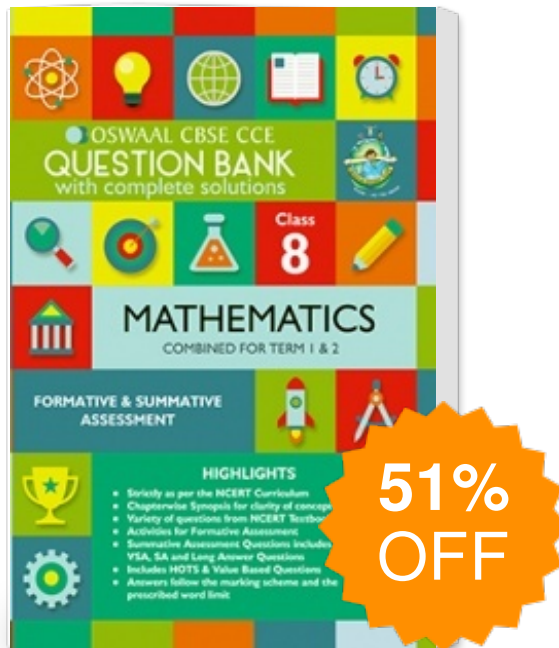
SECTION 'C'

- Find the three rational numbers between $\frac{1}{2}$ and -2 .

OR

The base of an isosceles triangle is $\frac{4}{3}$ cm. The perimeter of the triangle is $4\frac{2}{15}$ cm. What is the

Oswaal CBSE CCE Question Bank With Complete Solutions For Class 8 Mathematics (Term 1 And 2)



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