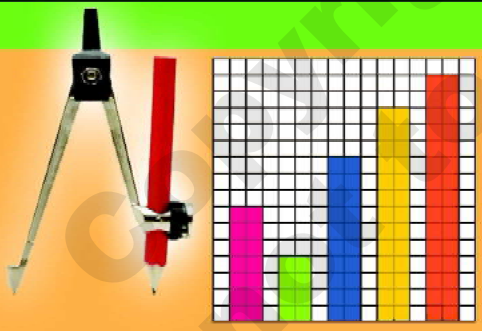
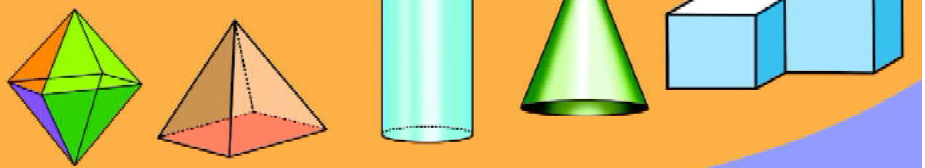
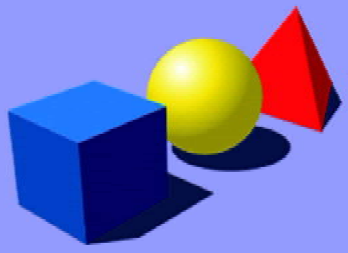
Q6P2B4

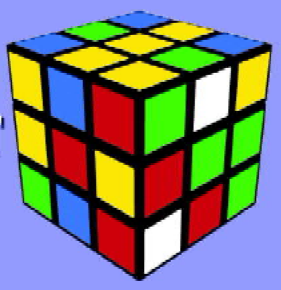
MATHEMATICS

For class VIII









ELEMENTARY EDUCATION DEPARTMENT
GOVERNMENT OF ASSAM

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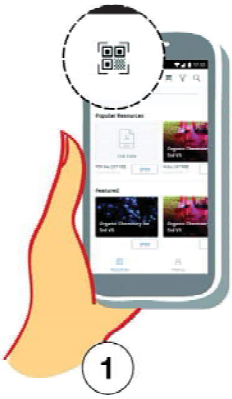

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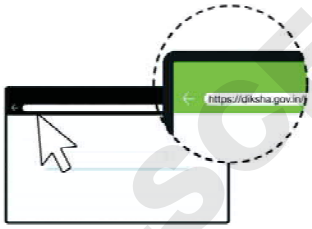
1 Under the QR code there would be 6 digit code



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3 Type the 6 digit QR code in the search bar

4 View list of content available & click on any new content

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LESSON PLAN
Lesson plan is a structured outline of a given topic/unit/chapter to be taught in any given day. Lesson plan aids to streamline teaching and create an engaging learning experience.

IMAGES
Pictures, drawings or photographs to explain concepts and non-local contexts.

VIDEO & AUDIO CLIPS
To help explain difficult concepts creatively and innovatively.

ACTIVITIES
Engaging games or exercises to test and increase cognition.

INTERACTIVE GAMES
Engaging games or exercises to test and increase cognition.

ASSESSMENT
An evaluation to gauge the level of understanding of any given topic/ chapter/unit. Assessments help teachers improve the overall learning experience.

WORKSHEETS
A set or questions or tasks put together to assess the understanding of any particular topic/unit/chapter.

MATHEMATICS

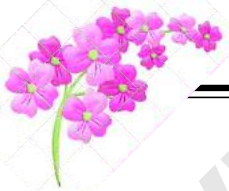
FOR CLASS -VIII

Q6P2B4

Prepared by :

STATE COUNCIL OF EDUCATIONAL RESEARCH & TRAINING, ASSAM

KAHILIPARA, GUWAHATI-19



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Dr. Ranoj Pegu, MBBS.
Minister, Assam

Education, Welfare of Plain
Tribe & Backward classes

MESSAGE

Textbooks are the key components of scholastic education. Students gain knowledge that flows through the pages of the textbooks. Students, enriched with knowledge, are the wealth and future of our State as well as our Nation. The Renaissance of human civilization had been influenced by Education only. With this realization and foresight, the present Government has accorded the highest priority to the development of the Educational sector in the State.

The present State Government, in a bid to complement the untiring efforts of the student community to achieve success and fulfil ones' ambition and contribute to the welfare of the State, has been implementing various educational assistance programmes under "Pragyan Bharati". Under this programme, Free Textbooks are being distributed to the students from Pre Primary, Class I to Class XII which is now extended up to degree level since 2020. The benefits have been further augmented by waiving admission fees for the students of Secondary and Degree level. The State Government has also waived examination fees at the Secondary level for the students from the economically weaker section. Free uniforms are also being provided to the students up to the High School level. Under the "Anundoram Borooah Award Scheme", free laptops and at times, substituted with cash rewards, are being provided to meritorious students who excel in the HSLC examinations.

The Free Textbook component of the noble programme -"Pragyan Bharati" comprises printing, publication and distribution and, it is implemented with concerted efforts of the Assam State Textbook Production and Publication Corporation Limited (ASTPPC Ltd.), State Council of Educational Research and Training (SCERT), Board of Secondary Education, Assam (SEBA) and Assam Higher Secondary Education Council (AHSEC). I thank all these wings of the education department and appreciate their sincere hard work to make the scheme successful. My best wishes remain to all the Students - the human resources of the Nation for relentlessly pursuing their studies with all dedication and sincerity to gain a successful foothold to a bright future.

(Dr. Ranoj Pegu)
Education Minister, Assam

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Preface

Textbooks are playing an important role in universalization of Elementary Education along with successful implementation of child-centered education as mentioned in National Education Policy 1986. Keeping that in mind and as per the order of Government Of Assam, State Council of Educational Research and Training, Assam has been developing and reviewing the textbooks for the elementary stage from time to time. As per the order of the Govt. of Assam, a textbook namely 'Mathematics' for the students of class VIII has been developed to be implemented from the academic session of 2020. This textbook is developed on the light of National Curriculum Framework 2005 and also in the light of the latest Learning Outcomes spelt out by National Council for Educational Research and Training, New Delhi.

Local specific content relating to the real life of the learner has been included in the textbook for experiential learning. It is expected that teachers will make the teaching learning process joyful with the help of things from real life as much as possible while teaching the lessons of the textbook.

Quick Response (QR) codes are incorporated in lessons of this textbook in order to help students to acquire more lesson based knowledge. Teacher and guardians will help the students in use of the QR codes.

I extend my sincere gratitude to the Professors, subject-experts, teacher trainers, teachers, core group members, advisor, co-coordinator, illustrators, DTP operators and all the officers and staffs of SCERT, Assam who extended their support in different ways and worked hard for development of this textbook cum workbook within such a short period of time.

It is expected that constructive suggestions and advice will contribute in rectifying the errors in the next editions of this book.

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(Dr. Nirada Devi)
Director
State Council of Educational Research & Training, Assam
Kahilipara, Guwahati-19

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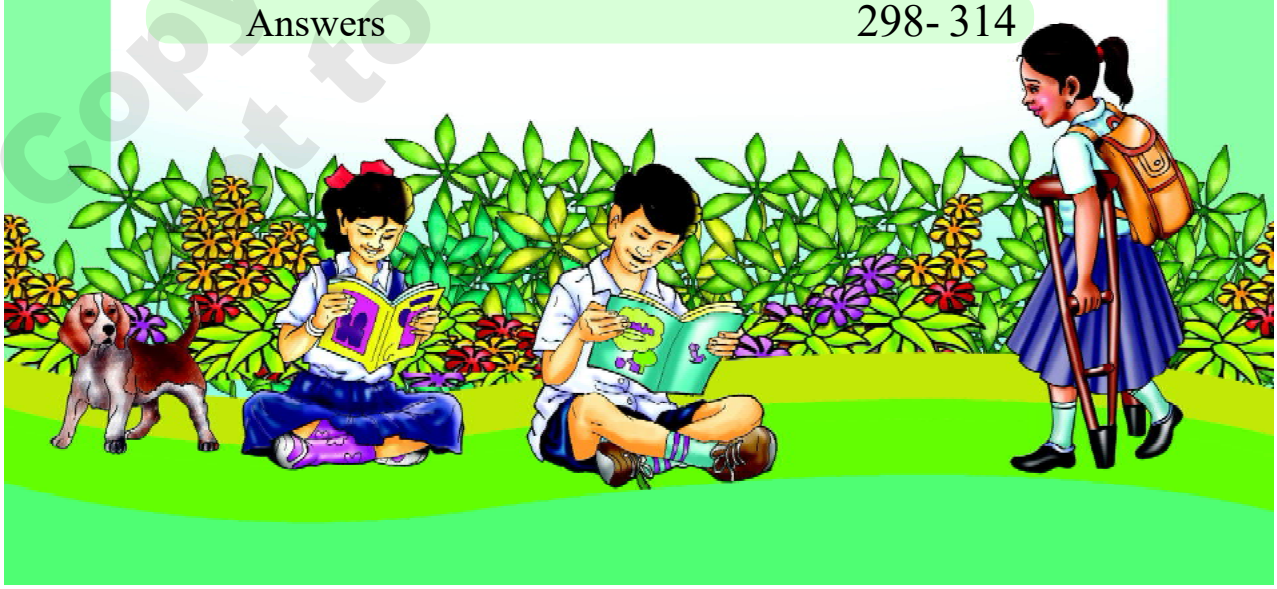

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Learning Outcome of Class VIII (Mathematics)

The learner-

- generalises properties of addition, subtraction, multiplication and division of rational numbers through patterns
- finds out as many rational numbers as possible between two given rational numbers.
- proves divisibility rules of 2, 3, 4, 5, 6, 9 and 11
- finds squares, cubes and square roots and cube roots of numbers using different methods.
- solves problems with integral exponents
- solves puzzles and daily life problems using variables.
- multiplies algebraic expressions.
- e.g. expands (2x-5) (3x2+7).
- uses various algebric identities in solving problems of daily life.
- applies the concept of percent in profit and loss situations in finding discount. VAT and compound interest. e.g. calculates discount percent when marked price and actual discount are given or finds profit per cent when cost price and profit in a transaction are given.
- Solves problems based on direct and inverse proportions.
- Solves problems related to angles of a quadrilateral using angle sum property.
- verifies properties of parallelograms and establishes the relationship between them through reasoning.
- represents 3D shapes on a plane surface such as sheet of paper, black board etc.
- verifies Euler's relation through pattern
- constructs different quadrilaterals using compasses and straight edge.
- estimates the area of shapes like trapezium and other and verifies using formulas.
- finds the area of a polygon.
- finds surface area and volume of cuboidal and cylindrical object.
- draws and interprets bar charts and pie charts.
- makes hypotheses on chances of future events on the basis of its earlier occurrences or available data like, after repeated thrrows of dice and coins.

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