Items for Assessment of Learning Outcomes

Mathematics

Class 5

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CHAPTER I
The fish tale

Learning objective

- Solves simple real-life problems involving measurement of length.
- Solves simple real-life problems related to speed, distance and time.
- Solves simple real-life problems related to weight
- Identifies the numbers bigger than 1 lakh
- Solves real life problems related to money
- Solves simple real-life problems related to loans, interest and savings

Learning outcomes

- Applies the four fundamental arithmetic operations in solving problems involving money, length, mass, capacity and time intervals

- Works with large numbers
a) Reads and writes numbers bigger than 1000 being used in her /his surroundings
b) Performs four basic arithmetic operations on numbers beyond 1000 by understanding of place value of numbers
c) Divides a given number by another number using standard algorithms
- Estimates sum, difference, product and quotient of numbers and verifies the same using different strategies like using standard algorithms or breaking a number and then using operation

Q 1. Motor boat can travel at the speed of 20 km per hour. How far can a motor boat go in six hours?

    (a) 125 Km   (b) 120 Km

    (c) 110 Km   (d) 115 Km

Q 2. How many seconds are there in 5 minutes 10 seconds?

    (a) 15 seconds   (b) 60 seconds

    (c) 300 seconds   (d) 310 seconds

Q 3. The height of a cupboard is thrice the height of bookshelf. If the height of the bookshelf is 2 m 50 cm, find the height of the cupboard.

    (a) 8 m 50 cm   (b) 6 m 50 cm

    (c) 7 m 70 cm   (d) 7 m 50 cm

Q 4. Reema pours 2 l 250 ml of juice equally into 9 glasses. How much juice is there in each glass?

        (a) 600 ml   (b) 300 ml

        (c) 250 ml   (d) 150 ml

Answers

1- (b)   2- (d)   3- (d)   4- (c)

# CHAPTER II

Shapes and angles

Learning objective

- Explain the meaning of an angle.
- Explain the relationship between the angles and the shape of a polygon
- Identifies and classifies different types of angles (right angle, acute angle, obtuse angle)
- Classifies different angles found in our surroundings into acute angle, obtuse angle, right angle and represents the same by drawing and tracing
- Makes a degree clock to estimate and measures angles around us
- Estimate and measures angles using a protractor
- Finds the perimeter of a given figure

Learning outcomes

- Explores idea of angles and shapes
  a) Classifies angles into right angle, acute angle, obtuse angle and represents the same by drawing and tracing
  b) Identifies 2d shapes from the immediate environment that have rotation and reflection symmetry like alphabet and shapes
- Makes cube, cylinder and cone using nets designed for this purpose

Q 1 Which of the following is NOT drawn in the diagram?
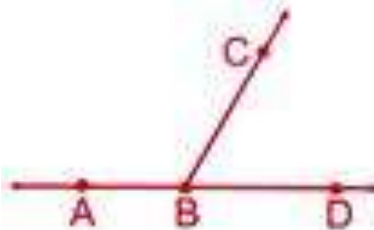
    (a) Ray BD   (b) Line AD

    (c) Angle B   (d) Line segment CD

Q 2 Danish drew an angle as shown here. Manish drew an angle that was twice the measure of Danish's angle. What was the measure of Manish's angle?

    (a) 20⁰   (b) 70⁰

    (c) 80⁰   (d) 60⁰

Q 3. There are six angles below. How many of them are greater than a right angle?
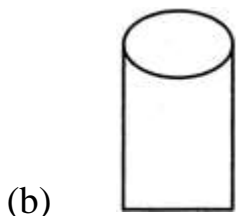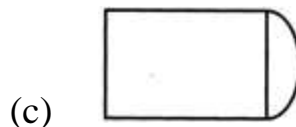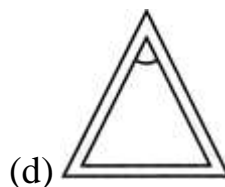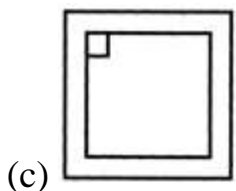

(a) 2   (b) 1

(c) 3   (d) 4

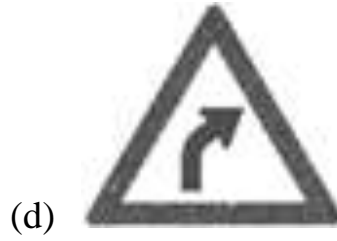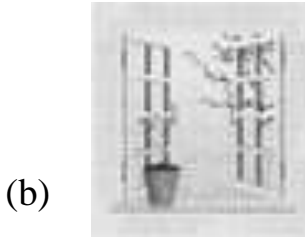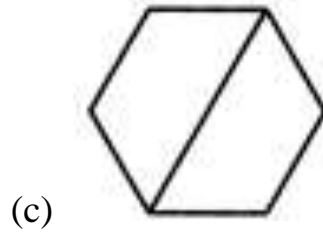**Q 4 What is the top view of the can shown below?**

(a)

(b)

(c)

(d)

Q 5. Ravi makes some frame boards. In which board has he identified angle less than 90°?

(a)

(b)

(c)

(d)
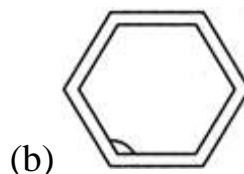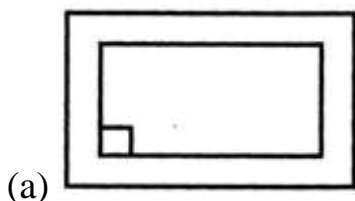
Q 6. Which of the following has a right angle?

(a)

(c)

(b)

(d)

**Answers1 (d)   2 (c)   3 (c)   4 (d)   5 (d)   6(b)**

CHAPTER III

## How many squares?

Learning objective

- Develops a sense of the concept of 'area' using the square grid.
- Finds the area of objects by tracing on square grids.
- Solves simple problems based on the area of geometrical shapes.
- Deduces that objects having equal areas can have different perimeters.
- Solves simple problems based on the area of shapes.

Q 1 Calculate the area of rectangle if one square represents an area of 1 cm²
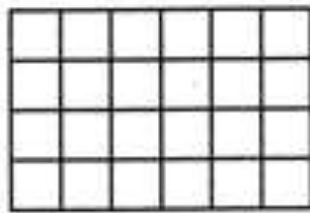
   (a) 2 cm²   (b) 9 cm²

   (c) 50 cm²   (d) 24 cm²

Q 2 Find the area of shaded region. (Each square = 1m²)
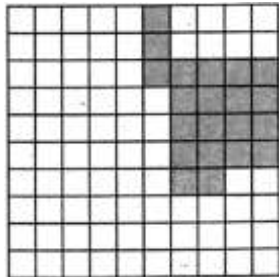
   (a) 21 m²   (b) 35 m²

   (c) 34 m²   (d) 13 m²

Q 3 The area of a square is 25 square units. Find its perimeter.

   (a) 25 units   (b) 20 units

   (c) 40 units   (d) 50 units

Answers

1 (d)   2 (a)   3 (b)

Parts and wholes

Learning objective

- Represents 1/3,1/2,1/3,1/4,3/4 part of a collection by shading and represents symbolically.
- Compares fractions (1/2,1/3,1/4,3/4)
- Finds fractional parts of the given quantities (2/5th of 100 coins)
- Calculates the whole by looking at the given fractional part
- Recognizes equivalence in fractions
- Solves real life problems based on fractions

Learning outcomes

- Acquires understanding about fractions
  a) Finds the number corresponding to part of a collection
  b) Identifies and forms equivalent fractions of a given fraction expresses a given fraction 1 /2, 1 /4, 1 /5 in decimal notation and vice-versa.

Q 1. Anushka drew the following figure on a piece of paper. What fraction of the figure is shaded?
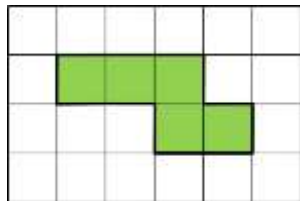
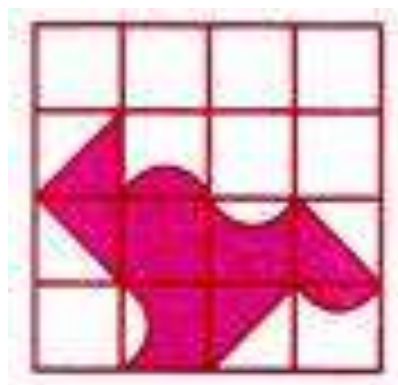(a) $\dfrac{1}{24}$ (b) $\dfrac{5}{19}$

(c) $\dfrac{3}{24}$ (d) $\dfrac{5}{24}$

Q 2 What fraction of the figure is shaded?

(a) $\dfrac{8}{16}$ (b) $\dfrac{4}{16}$

(c) $\dfrac{5}{16}$ (d) $\dfrac{9}{16}$

Q 3. Below is an aquarium with different types of fishes swimming in it. What fraction of fishes is NOT star FISHES?

(a) 4/7   (b) 3/7

(c) 7/7   (d) 1/7

Q 4. Mother Labrador gave birth to 8 puppies. Off these puppies, 1 is black in colour whereas other 7 are white colored. What fraction of the whole group of puppies is black Labrador?

(a) 1/7   (b) 7/8

(c) 1/8   (d) 8/7

Q 5. Which of the following figure represents 5/12 of a whole?

(a)   (b)

(c)   (d)

Answers

1 (d)   2 (c)   3 (a)   4 (c)   5(d)

Does it look the same?

Learning objective

- Checks symmetry and finds line of symmetry in various objects and shapes
- Identifies rotational symmetry in 2D shapes
- Identifies shapes, numbers, objects which look the same after half a turn; (ii) One-fourth turn; (iii) One-third turn; (iv) One- sixth turn.
- Predicts and draws the shapes how an object would look like after Half turn, One-fourth turn, One-third turn, One- sixth turn.

Learning outcomes

- Explores idea of angles and shapes
  a) Classifies angles into right angle, acute angle, obtuse angle and represents the same by drawing and tracing
  b) Identifies 2d shapes from the immediate environment that have rotation and reflection symmetry like alphabet and shapes
- Makes cube, cylinder and cone using nets designed for this purpose

Q 1. The shape below is rotated in anti-clockwise direction. Which of the following shows figure A after 1/4 turn?
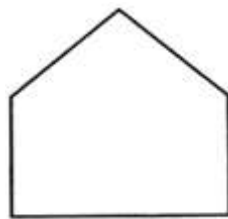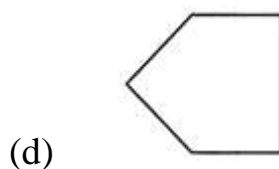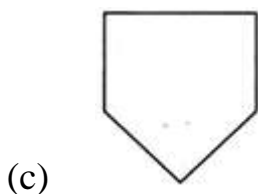
Figure A

(a)

(b)

(c)

(d)

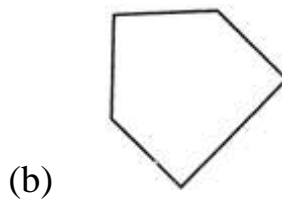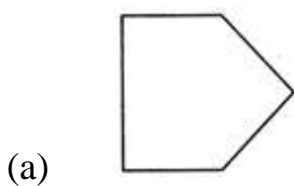**Q 2. How many lines of symmetry does the figure A have?**

Figure A

(a) 1   (b) 2
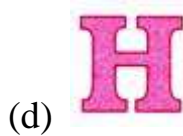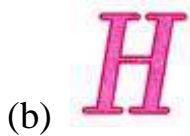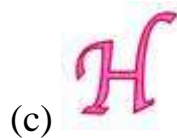
(c) 3   (d) 4

Q 3. How many lines of symmetry does figure A has?

(a) 0   (b) 1

(c) 2   (d) 3

Q 4. Which of the following figures has a line of symmetry?

(a)   (c)

(b)   (d)

Answers

1 (d)   2 (a)   3 (a)   4 (d)

CHAPTER VI
Be my multiple, I'll be your factor

Learning objective

- Identifies and defines multiples of a number.
- Solves simple problems based on the multiples of number
- Find out common multiple(s) of a given number
- Finds factors using factor tree and solve contextual problems related to it.
- Finds out common factors(s) of given numbers and solve contextual problems related to it.
- Connect the concepts of LCM AND HCF with real life situations.

Q 1. **Which of the following are not multiples of** 2**?**

    (a) Even numbers   (b) Odd numbers

    (c) Prime numbers   (d) Composite numbers

Q 2. Find three common multiples of 18 and 6?

    (a) 18, 6, 9   (b) 18, 36, 6

    (c) 36, 54, 72   (d) 1, 6, 18

Q 3. The common factors of 56 & 44 are _____.

    (a) 1, 2, 4   (b) 1, 2, 11

    (c) 1, 8   (d) 2

Q 4. Find the L.C.M. of 12, 24 and 36.

    (a) 36   (b) 24

    (c) 72   (d) 108

Q 5. What is the H.C.F. of 36 and 144?

    (a) 36   (b) 144

    (c) 4   (d) 2

Answers

1 (b) 2 (c) 3 (a) 4 (c) 5(a)

CHAPTER VII

Can you see the pattern?

Learning objective

- Identifies and explores patterns in special numbers.

Learning outcomes

- Identifies the pattern in triangular number and square number

Q 1. Find the missing number, if a certain rule is followed in the given figures.
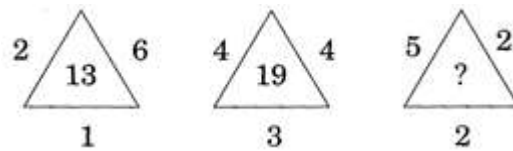
(a) 10 (b) 9

(c) 12 (d) 20

Q 2. Which number will replace the question mark in the number pattern given below?

(a) 71 (b) 75

(c) 80 (d) 81

Q 3. Find the missing number in the given number pattern.

(a) 316 (b) 1135

(c) 291 (d) 377

Answers

1 (b) 2 (b) 3 (c)

CHAPTER VIII
Mapping your way

Learning objective

- Uses the concept of scale
- Reads and interprets the given map
- Draws a given picture with different scales and estimates the area occupied
- Recognizes directions in different contexts.

Q1.Jyoti is facing south-east. When she turns 3 right angles anticlockwise in which place does she face now?

 (a) Park   (c) Food Centre

 (b) Stadium   (d) Club

Q2.I am facing the market now. If I make 270^0 turn to the right, I will be facing the _____.

 (a) School   (c) Library

 (b) Police Post   (d) Market

Q 1. After walking 6 km, I turned to the right and then walked 2 km. After then I turned to the left and walked 10 km. In the end, I was moving towards the North. In which direction did I start my journey?

    (a) North   (c) South

   (b) East   (d) West

Answers

1 (d)   2 (a)   3 (a)

Learning objective

- Makes nets for cubes and cuboids

Learning outcomes

- Explores idea of angles and shapes
  a) Classifies angles into right angle, acute angle, obtuse angle and represents the same by drawing and tracing
  b) Identifies 2d shapes from the immediate environment that have rotation and reflection symmetry like alphabet and shapes
- Makes cube, cylinder and cone using nets designed for this purpose

Q 1. Which of the following figure/net folds up to form a cube?

(a) (b) (c) (d)
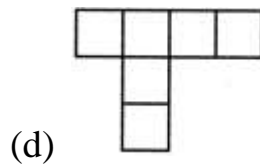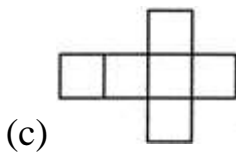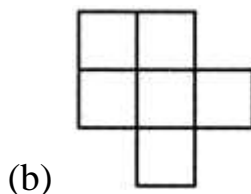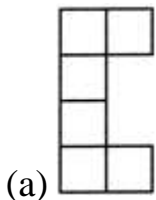
Q 2. Which of the following figure/net will fold up to form a cuboid?

(a) (c) (b) (d)
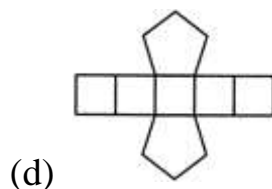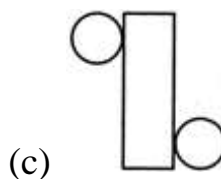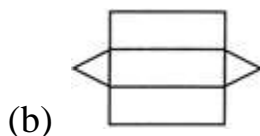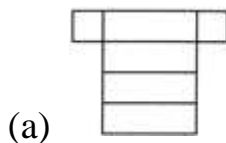
Q 3. What is the front view of the solid below?

(a)

(c)

(b)

(d)
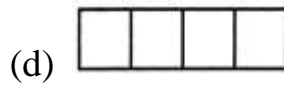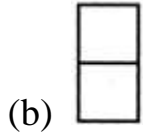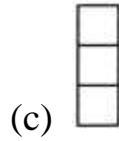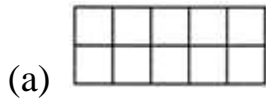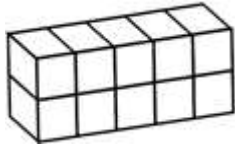
Q 4. Which shape does net given below form?
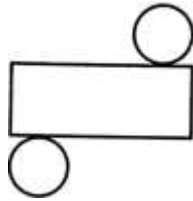
(a) Cube   (b) Cylinder

(c) Cone   (d) Cuboid

Answers

1 (c)   2 (a)   3 (a)   4 (b)

CHAPTER X
Tenths and hundredths

Learning objective

- Represents decimals into fractions and vice versa.

Learning outcomes

- Acquires understanding about fractions
a) finds the number corresponding to part of a collection
b) identifies and forms equivalent fractions of a given fraction
c) expresses a given fraction 1 /2, 1 /4, 1 /5 in decimal notation and vice-versa.

Q 1. Represent 0.504 as a decimal fraction

(a) $\dfrac{504}{100}$ (b) $\dfrac{504}{10}$

(c) $\dfrac{504}{1000}$ (d) $\dfrac{50.4}{100}$

Q 2. Represent 999/10 into the form of decimal.

(a) 9.99 (b) 0.999
(c) 99.9 (d) 999.0

Q 3. Find the decimal number for "one and four tenths".

(a) 14.0 (b) 1.4
(c) 0.14 (d) 140.0

Answers

1 (c) 2 (c) 3 (b)

CHAPTER XI
Area and its boundary

Learning objective

- Calculates area of rectangular figures through different methods
- Calculates the area of square
- Solves problems based on area and perimeter of a rectangle
- Solves problems based on area and perimeter of a square
- Solves real life problems based on area of simple shapes.
- Finds the perimeter and area of irregular shapes on square grid

Q 1. If a square has sides 2 cm long, what will be its area?

(a) 8 cm^2

(b) 9 cm^2

(c) 4 cm^2

(d) 5 cm^2

Q 2. What is the area of rectangle if Length = 2m, Breadth = 5m

(a) 12 m^2

(b) 14 m^2

(c) 10 m^2

(d) 18 m^2

Q 3. Find the missing side in the figure given below if the perimeter of the figure is 28m.
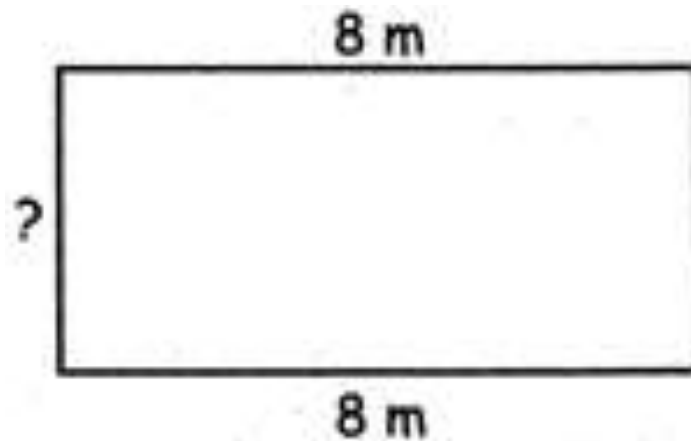
(a) 12 m

(b) 3 m

(c) 9 m

(d) 6 m

Answers

1 (c)   2 (c)   3 (d)

CHAPTER XII
SMART CHARTS

Learning objective

- Records data in tabular form
- Records and interprets data using tally marks
- Plot data in a bar graph and interpret various bar graphs
- Multiplies two or three digit numbers through standard algorithm

Learning outcomes

- Collects data related to various daily life situations, represents it in tabular form and as bar graphs and interprets it

Q 1. The bar graph shows the grades obtained by a group of pupils in a test.
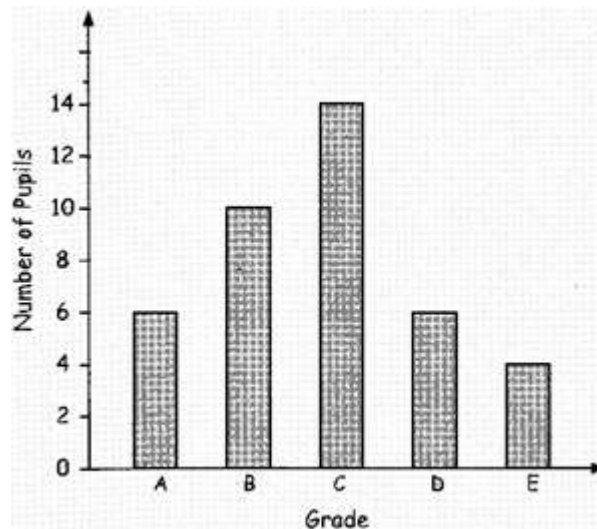
What is the difference between the number of pupils obtaining Grade C and B?

    (a) 10   (b) 4

    (c) 24   (d) 30

Q 2 In a village the number of members in 20 family are as follows: 6, 8, 6, 3, 2, 5, 7, 8, 6, 5, 5, 7, 7, 8, 6, 6, 7, 7, 6, 4. The frequency of families having 06 members are:

    (b) 7   (b) 5

    (c) 6   (d) 4

Q 3 The pictograph shows the number of eggs sold by a trader in three days.

Monday	◯ ◯ ◯
Tuesday	◯ ◯ ◯ ◯ ◯
Wednesday	◯ ◯ ◯ ◯

◯ Represents 25 eggs.
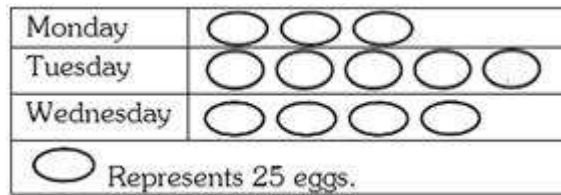
If the trader still had 115 eggs left after the three days, calculate the number of eggs he had at first.

  (a) 185   (b) 300

  (c) 215   (d) 415

Answers

1 (b)   2 (c)   3 (d)

CHAPTER XIII
Ways to multiply and divide

Learning objective

- Solve real life problems based on multiplication.
- Divides given numbers through nonstandard algorithm
- Divides numbers using standard algorithms
- Solves real life problems based on multiplication and division
- Creates and solves patterns, games, puzzles using multiplication and division

Learning outcomes

- Works with large numbers
  a) Reads and writes numbers bigger than 1000 being used in her /his surroundings
  b) Performs four basic arithmetic operations on numbers beyond 1000 by understanding of place value of numbers
  c) Divides a given number by another number using standard algorithms
- Estimates sum, difference, product and quotient of numbers and verifies the same using different strategies like using standard algorithms or breaking a number and then using operation.

Q 1. If there are 5000 mangoes in 100 boxes, how many mangoes will be there in 75 boxes?

   (a) 3570   (b) 3750

   (c) 4000   (d) 2750

Q 2. Solve the following questions using the correct order of operations.

$$4 \times 2 \div 4 + 3$$

   (a) 5   (b) 7

   (c) 6   (d) 4

Q 3. Find the smallest number by which the number 81 must be divided to obtain a perfect cube

   (a) 27   (b) 81

   (c) 9   (d) 3

Q 4. What is the product of all the numbers in the dial of a telephone?

(a) 1,58,480

(b) 1,59,450

(c) 1,59,480

(d) 0

CHAPTER XIV
How big? How heavy?

Learning objective

- Guess approximate volume of solid objects found in day to day life. Measures and compares the volume of solids.
- Calculates volume of different objects in terms of other objects.
- Calculates the volume of solid objects using container marked with the standard units.
- Find the volume of cube.
- Find the volume of cuboid.
- Solves real life problems based on volume of solids
- Relates different commonly used larger and smaller units of weight and convert larger units to smaller units and vice versa.
- Applies the four fundamental arithmetic operations in solving a variety of contextual problems involving weight.

Learning outcomes

- Estimates the volume of a solid body in known units like volume of a bucket is about 20 times that of a mug
- Operations in solving problems involving money, length, mass, capacity and time intervals
- Relates different commonly used larger and smaller units of length, weight and volume and converts larger units to smaller units and vice versa
- Applies the four fundamental arithmetic operations in solving problems involving money, length, mass, capacity and time intervals

Q 1. What is the volume of a brick of ice-cream with length 25 cm, breadth 10 cm and height 8 cm?

(a) 2010 cm^3 (b) 1990 cm^3
(c) 2000 cm^3 (d) 2100 cm^3

Q 2. A rectangular tank 15cm long, 12cm wide and 8cm high was completely filled with water. Find the volume of water in the tank.

(a) 180 cm^3 (b) 440 cm^3
(b) 1200 cm^3 (d) 1440 cm^3

Q 3. A container 12cm deep is 10cm wide and 17cm long. It is half-filled with rice. How many cubic centimetres of rice is there in the container?

    (a) $1020 \, cm^3$ (b) $2040 \, cm^3$

    (b) $510 \, cm^3$ (d) $4080 \, cm^3$

Answers

1 (c)   2 (d)   3 (a)

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"Live as if you were to die tomorrow. Learn as if you were to live forever"

- Mahatma Gandhi

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