UT CHANDIGARH EDUCATION DEPARTMENT

CCT PRACTISE
(E-CONTENT)

CLASS - 7TH (MATHEMATICS-ENGLISH CONTENT)
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INDEX

Subject	Medium	Chapter No. & Name	Experiential learning	CCT Literacy Area	Learning Outcomes	Intigration of other subjects with maths
Mathematics	ENGLISH	1. Integers	Withdrawal and depositing of money, height above sea level, places and temperature, profit and loss, correct and incorrect answers. Visiting a lake or any water body and studying the water levels at different points	**Quantity**	The learner multiplies/divides two integers	**Science -** Studying about land and sea breeze, height above sea level etc.
Mathematics	ENGLISH	2. Fractions and Decimals	Planting of trees, stream allocation, buying and selling things, knowing distances, bills, etc. Visit to a supermarket, being part of plantation drive etc.	**Quantity**	The learner interprets the division and multiplication of fractions. The learner uses algorithms to multiply and divide fractions/decimals.	**Performing Arts-Slogan writing on green earth**
Mathematics	ENGLISH	3. Data Handling (dual Probability & cards)	Temperature variation, cricket scores, report cards, marks obtained, average hours of sunshine, weather report, climate change, elections, dice games, library, colour coding. Visiting a cricket or any other sports stadium and watching a match.	**Uncertainty & Data**	The learner finds various representative values for simple data from her/his daily life contexts like mean, median and mode. The learner also recognises variability in real life situation such as, variations in the height of students in her class and uncertainty in happening of events like throwing a	**Geography-** Study the temperature variations, climatic changes etc. of a region by representing the data graphically. Sports – While watching a match between the school students and the alumni of the school, predicting the winning team using a dice Business Studies- Study of the electricity consumption in different months and

					coin. The learner interprets data using bar graph, such as consumption of electricity is more in winters than summer, runs scored by a team in first 10 overs, etc. The learner determines the probability of an event especially in case of 2 dice and cards.	analysing the data by drawing graphs.
Mathematics	ENGLISH	**4. (Introduction of equations in two variables)**	Library, stationery shops, hostel mess, grocery shop, vegetable market, examination, age related problems, tree plantation, etc Visit to a market, library, hostel mess, or being part of vanmohatsav drives etc	**Change & Relationship**	The learner represents daily life situations in the form of a simple equation and solves it. The learner finds solutions of pairs of linear equations in two variables using different algebraic methods	Hindi and Punjabi- Writing essays about hostel life and designing a menu for the hotel in Hindi.
Mathematics	ENGLISH	**5. Lines and angles**	Carpentry,Cross roads ,Railway crossing Household materials like staircase, cloth hanger, table chair, etc.Construction of gates, grills, placing of mirrors, etc. Visit to a railway station and a roundabout of the city, Visit to a carpenter's shop	**Shape & Space**	**The learner classifies pairs of angles based on their properties as linear, supplement ary, complement ary, adjacent and**	**Art and Craft** - Designing of furniture

					vertically opposite and finds value of the one when the other is given. The learner verifies the properties of various pairs of angles formed when a transversal cuts two lines	
Mathematics	ENGLISH	6. The Triangle and its properties (Similarity of triangles)	Decoration pieces, board games for children, placing of ladders along the walls, making triangular traffic signals. Visit to a traffic park to observe traffic signs, roofs of houses etc	**Shape & Space**	The learner finds unknown angle of a triangle when its two angles are known. The learner works out ways to differentiate between congruent and similar figures.	Geography- Knowing our landscape Life Skills- Making different traffic sign boards and creating awareness among the general public on traffic rules.
Mathematics	ENGLISH	7. Congruence of Triangles	Construction work, symmetrical figures, bulletin boards in school, hoardings on roadsides, road signs, my kitchen, kid's building blocks Visit to a construction site, buildings, monuments etc.	**Shape & Space**	The learner explains congruency of triangles on the basis of the information given about them like (SSS, SAS, ASA, RHS)	**English**- Writing slogans, posters and drawing advertisements . Science – After the visit to a construction site students can be asked for various angles involved in construction and to sort out materials needed for construction into various types Social Studies- Symmetry of

						historical monuments.
Mathematics	ENGLISH	8. Comparing Quantities	Differentiating between prices of products, temperature comparison, comparison of marks, composition of air, literacy rate, population of a country, buying and selling things, banking, elections, division in proper portions, colour coding, etc. Visit to a bank, local vegetable markets, shopping malls etc.	**Change & Relationship**	The learner distinguishes quantities that are in proportion. For example, tells that 15, 45, 40, 120 are in proportion as 15/45 is the same as 40/120. The learner solves problems related to conversion of percentage to fraction and decimal and vice-versa. The learner calculates profit/loss percent and rate percent in simple interest.	**English- Designing a billing system for a grocery shop. Business Studies- Studying different banking transactions.**
Mathematics	ENGLISH	9. Rational Numbers	Distances above and below sea level, jumping up and below staircase, outdoor games, knowing our directions.	**Quantity**	The learner solves problems related to daily life situations involving rational numbers	**Science –** studying work done and energy used in doing different types of works like going up or down the staircase etc.

Mathematics	ENGLISH	10. Practical Geometry	Decoration items, triangular cut outs for seminars, rallies and street places. Participating in seminars, cycle rallies, restaurants for enjoying sandwiches or pizzas etc.	**Shape & Space**	The learner using ruler and a pair of compasses constructs a line parallel to a given line from a point outside it and constructs triangles on the basis of congruency.	**English** -Poem on different geometrical figures /Dialogue writing for conversation between two geometrical shapes
Mathematics	ENGLISH	11. Perimeter and Area (Introduction of circles , Tangents sectors and segments)	Whitewashing walls, fencing lawns, denting and painting of house, racing tracks, agricultural fields, etc. Visit to an agricultural field.	**Shape & Space**	The learner finds out approximate area of closed shapes by using unit square grid/graph sheet and also calculates areas of the regions enclosed in a rectangle and a square. The learner understands different concepts of tangents and circles.	**Science** - Chemical formulas for chemicals used in white washing, their common names etc. Social Studies- Composition of soil, growth of crops etc.
Mathematics	ENGLISH	12. Algebraic Expressions	Garden, comparison of ages, board games. number patterns. Visit to zoological park, national forest etc.	**Change & Relationship**	**The learner adds/subtracts algebraic expressions.**	**History - Finding dates of historic events in BC and AD.**
Mathematics	ENGLISH	13. Exponents and Powers	Astronomical distances, planets revolving around Sun, number of starts in a galaxy.	**Change & Relationship**	The learner uses exponential form of numbers to simplify problems involving multiplication and division of large numbers.	**Science**- Learning about the universe.

|						
Mathematics	ENGLISH	14. Symmetry	Creating picture albums, colourful designs, engineering, architecture and nature. Visit to a nearby garden.	**Shape & Space**	The learner differentiates between regular and irregular polygon.. The learner understands line symmetry and rotation symmetry	**History**- Symmetry of architectural designs
Mathematics	ENGLISH	15. Visualising Solid Shapes	Pyramids, dice games, cutting and slicing, formation of shadows, different views (top, front and back) of buildings. Visit to a fruit shop, different historical	**Shape & Space**	The learner sees hidden parts of the solid shapes.	**Social Studies-** Studying the structure of Egyptian pyramids. Science- Study of light, reflection, formation of shadow etc.

CLASS -7

CHAPTER 1 - INTEGERS

Learning Outcome : The learner multiplies/ divides two integers

1. The table shows the average normal January temperature of four cities in Alaska.
(a) Is the sum of the temperature of Fairbanks and Anchorage greater than the sum of temperatures of Barrow and Juneau and by how much?
(b) How much should the temperature of Barrow increase to reach the difference of the temperature of Juneau and Anchorage?

City	Temperature (°F)
Anchorage	15
Barrow	-13
Fairbanks	-10
Juneau	24

CLASS -7

CHAPTER 1 - INTEGERS

Learning Outcome : The learner multiplies/ divides two integers

2. An Airline company makes a profit of $56 on every business class ticket while loses of $ 7 on every economy class ticket. If the company sold 800 tickets of economy class how many business class tickets should it sell to break - even?

CLASS -7

CHAPTER 1 - INTEGERS

Learning Outcome : The learner multiplies/ divides two integers

3. Point P is 750m above sea level and point Q is 500 below sea level. Then Distance between P and Q in kms is _____.
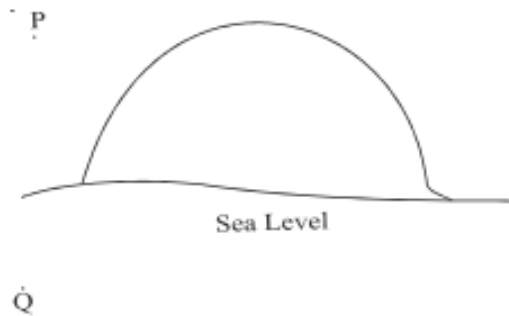
CLASS -7

CHAPTER 1 - INTEGERS

Learning Outcome : The learner multiplies/ divides two integers

4. Susan's mother account had some amount which was gifted to her but she lavishly spends money for few months. If she withdraws Rs.10,000 in first month and deposits Rs. 8000 in the second month in the account. She starts withdrawing and depositing out same amount and finds that after 8 months there is zero balance. Mother got annoyed and asked Susan to return her money back. Susan returned Rs 5000 to her mother and asked for some time to return the left over amount. How much more money has to be given back? Mother asked her to pay Rs 100 extra for one month as interest in order to teach her a lesson. If she had returned money after 3 months how much money Susan paid as interest?

Deposits and Withdrawals
By: Mr. Drescher
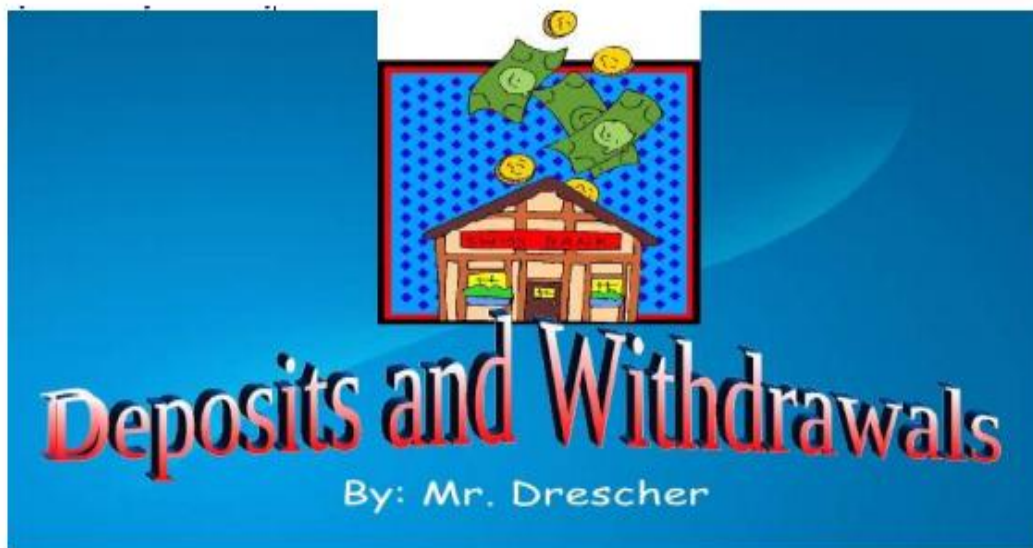
CLASS -7

CHAPTER 1 - INTEGERS

Learning Outcome : The learner multiplies/ divides two integers

5. Susanne had gone to some mountain peak and she felt that the temperature decreases 30C after increase of every 100m height above sea level.

   If the temperature is 100C at height of 2340m above sea level then at what height above sea level. Susanne will have to bear temperature of -20C?

CLASS -7

CHAPTER 1 - INTEGERS

Learning Outcome : The learner multiplies/ divides two integers

6. During sports day potato race was organised. 5 friends Sunny, Jenny, Peter, Patrick and Ritz have to hop and reach the finishing line. The rule is that the students will jump 5 steps forward and then 2 steps backward. If there are 9 steps between starting and finishing point. How many jumps will the each one take to reach the finishing line? But accidently Sunny, Jenny and Peter got hurt and were disqualified after they have taken 8 steps. How many Jumps three of them have taken?

CLASS -7

CHAPTER 1 - INTEGERS

Learning Outcome : The learner multiplies/ divides two integers

7. John and Sam got an opportunity to sit for a competition. During the exam 10 questions are asked. For every correct answer 4 marks are given. For attempting the answer wrong 3 marks are deducted for 1 wrong answer, 5 marks for 2 wrong answers, 7 marks for 3 wrong answers. Whose score will be more, if John attempts all questions but only 8 are correct and Sam attempts only 5 questions out of which only 1 are incorrect?

CLASS -7

CHAPTER 1 - INTEGERS

Learning Outcome : The learner multiplies/ divides two integers

8. Manav is very fond of video games. Each time he plays a game he gets either a Star or a Sparkie. He got 5 points for a star and 10 points for a sparkie. He is on 3rd level. To open 4th level he needs total 155 points.

5 points	10 points
☆	✶

Manav played 6 games , for each game he got the following:

Game 1	Game 2	Game 3	Game 4	Game 5	Game 6
☆	☆	✶	☆	✶	☆

i) How many points did he score?

ii) How many points did he need more to unlock 4th level?

CLASS -7

CHAPTER 1 - INTEGERS

Learning Outcome : The learner multiplies/ divides two integers

9. Rohil brought a water tank for his home of capacity 450 litres. He filled the tank to its brim. After one hour he noticed that the quantity of water has decreased due to a small hole in the tank. He observed the tank for next two hours and found out that the quantity of water is decreasing at the rate of 9 litres every hour.

   i) What will be the quantity of water in the tank after 10 hours.

   ii) After how many hours the tank would be empty?

CLASS -7

CHAPTER 1 - INTEGERS

Learning Outcome : The learner multiplies/ divides two integers

10. Rohit and Vicky are playing a game, both have a dice each. Both of them throw their dice.

If the sum of the numbers they get on the two dice is more than 6, Rohit wins.

If the sum of the numbers they get on the two dice is less than 6, Vicky wins

If the sum of the numbers they get on the two dice is equal to 6, no one wins.

 i).In the game Rohit got 3 on his dice, but Vicky won the game.

 What could be the possible number Vicky got on his dice?

 ii) Whose probability of wining is more?

CLASS -7

CHAPTER 1 - INTEGERS

Learning Outcome : The learner multiplies/ divides two integers

11. Water level in a well was 20m below ground level.During rainy season, rain water collected in different water tanks was drained into the well and the water level rises 5m above the previous level.The wall of the well is 1m 20 cm high and a pulley is fixed at height of 80 cm.Raghu wants to draw water from the well.What will be the minimum length of the rope that he can use?

a) 17
b) 18
c) 96
d) 97
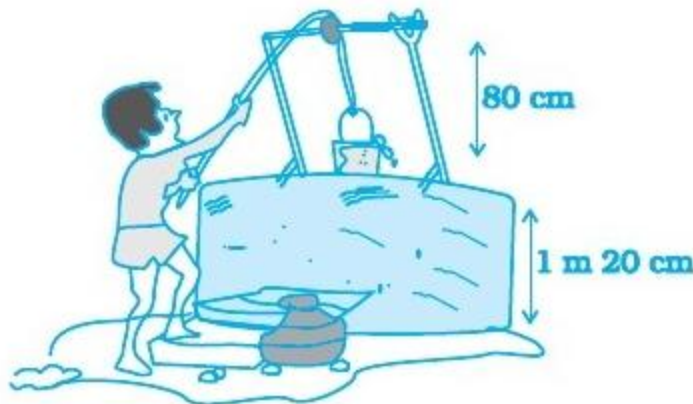
CHAPTER 1 - INTEGERS

Learning Outcome : The learner multiplies/ divides two integers

12. Tim was doing experiment in the science lab. He measured the Freezing point of water is 32^0 F. Tim added potassium and found out that the freezing point went down by 8^0 F.

What is the freezing point of water after the addition of potassium?

CLASS -7

CHAPTER 1 - INTEGERS

Learning Outcome : The learner multiplies/ divides two integers

13. Science exhibition was organized by a school to exhibit students knowledge and to raise funds for poor children. There was a entrance ticket for the exhibition.

    Mr. Sharma decided to visit along with his two children and their 3 friends. His elder girl is 13 years old and younger one is 2 years smaller than the elder daughter. Other three children are of 10,12 and 13 years old.
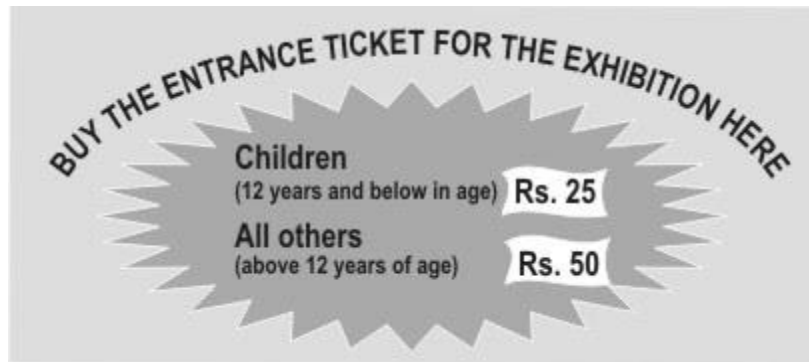
    How much money have they spend on tickets.

CLASS -7

CHAPTER 2 - FRACTIONS & DECIMALS

Learning Outcome : The learner uses algorithms to multiply and divide fractions/decimals.

1. A fruit basket has 2 pineapple for Rs 13.25 each, 5 apples for Rs 4.50 each , 4 bananas for Rs 2.75 each and a watermelon for Rs 23.50. The cost of empty fruit basket is Rs 5.50.

    (i) Meenu wants to buy all fruits from the basket, What amount she has to pay to the fruit seller ?

    (a) Rs 100   (b) Rs 70   (c) Rs 50.75   (d)Rs 83.50

    (ii) How many such fruit baskets can be purchased for Rs 6675 ?
    (a) 75   (b) 80   (c) 90   (d) 100

    (iii) Shivam likes pineapple and watermelon only and he has Rs.194 in his pocket. What maximum number of pineapples and watermelons, he can purchase from the amount in his pocket?

    (a) 4 pineapples, 4 watermelons   (b) 6 pineapples,6watermelons
    (c) 4 pineapples, 6 watermelons   (d)6pineapples,4 watermelons

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CLASS -7

CHAPTER 2 - FRACTIONS & DECIMALS

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Learning Outcome : The learner distinguishes quantities that are in proportion. For example, tells that 15, 45, 40, 120 are in proportion as 15/45 is the same as 40/120.

2. There are 14 stickers, red and yellow in color. Some yellow colored stickers are star marked. They are arranged in three groups A, B and C.
   i)   Find the following ratios:
           a) Red colored stickersnto all stickers.
           b) Star marked stickers to red colored stickers.

   ii) Find the ratio of yellow colored stickers in group A to its total stickers in group A. Find it for group B and c also. Arrange the three ratios in ascending order.
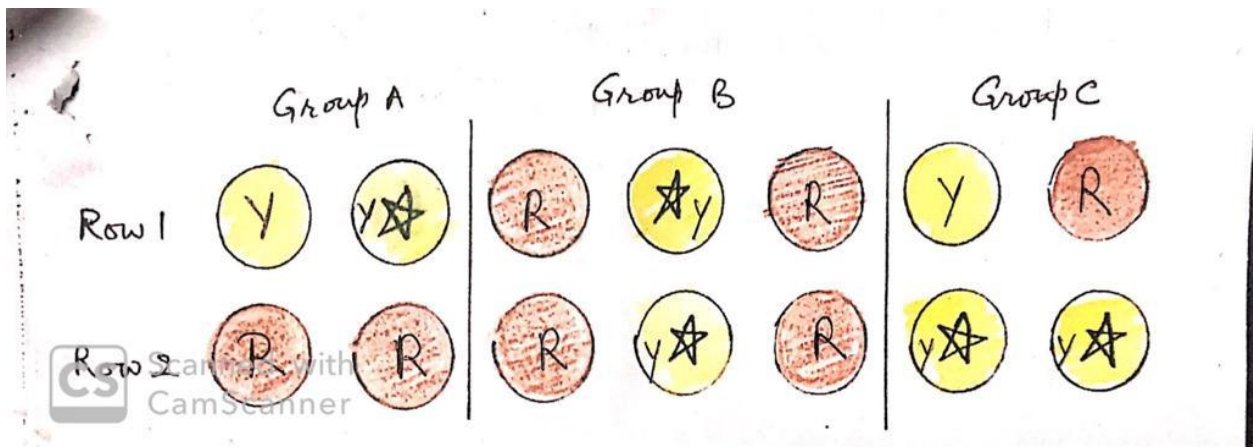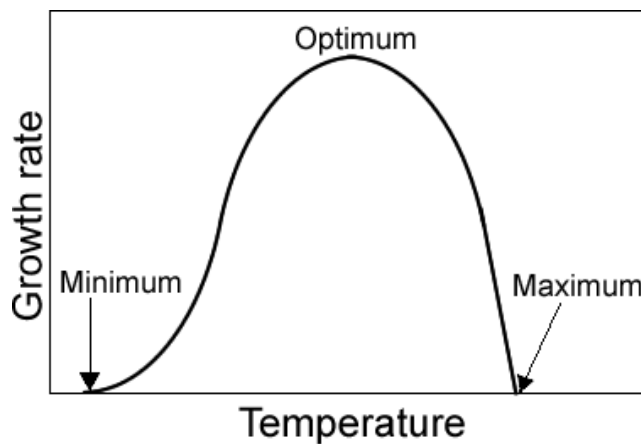
CLASS -7

CHAPTER 2 - FRACTIONS & DECIMALS

Learning Outcome : The learner uses algorithms to multiply and divide fractions/decimals.

3. Ritesh gets paid Rs.150 per hour on a week day. On weekends he gets an extra payment which is $\frac{1}{3}$ of regular payment. He is fined $\frac{1}{6}$ of his hourly pay for every mistake he makes. Ritesh puts in $4\frac{1}{2}$ hours on Monday , $5\frac{1}{2}$ Hours on Tuesday, $6\frac{1}{2}$ hours on Wednesday , 5 hours on Thursday , $4\frac{1}{4}$ hours on Friday and $3\frac{1}{4}$ hour on Saturday. On Tuesday he commits two mistakes and on Saturday he commits three mistakes.

(I) What will be the earning of Ritesh on Wednesday?
   a) Rs 800   b) Rs 975   c) Rs 1000   d)Rs.750

(II) If he commits two mistakes on Tuesday,what amount will be deducted from his earning   on that day?
   a) Rs 100   b) Rs 25   c) Rs 50   d)Rs.75

(III) What are his earnings at the end of the week?

   a) Rs 3000   b) Rs 4050   c) Rs 4000   d) Rs 4387.50

CLASS -7

CHAPTER 2 - FRACTIONS & DECIMALS

Learning Outcome : The learner uses algorithms to multiply and divide fractions/decimals.

Party Time

4. For the party ,Roma had $5\frac{1}{3}$ bottles of coke for her friends to drink She drank $\frac{1}{3}$ Of a bottle herself. Her friends drank $3\frac{1}{3}$. How many bottles of coke does Roma have left?

(a) 2 bottles

(b) 7 bottles

(c) $4\frac{1}{3}$ bottles

(d) $1\frac{2}{3}$ bottle

CLASS -7

CHAPTER 2 - FRACTIONS & DECIMALS

Learning Outcome : The learner uses algorithms to multiply and divide fractions/decimals.

5. Anna is a microbiology student. She was doing research on optimum temperature for the survival of different strains of bacteria. Studied shows that bacteria X needs optimum temperature of -31degree centigrade while bacteria Y needs optimum temperature of -56 degree centigrade.

What is the temperature difference ?

(a) 25degree centigrade   (b)10degree centigrade
(c) -30 degree centigrade   (d) 35 degree centigrade

CLASS -7

CHAPTER 2 - FRACTIONS & DECIMALS

Learning Outcome : The learner also recognises variability in real life situation such as, variations in the height of students in her class and uncertainty in happening of events like throwing a coin.

6. A person goes for a walk daily & counts the steps and note them in a diary. One of his diary pages shows the record of a week in the month of September.

    Monday   :   9490 steps
    Tuesday   :   9430 steps
    Wednesday   :   6264 steps
    Thursday   :   8961 steps
    Friday   :   11435 steps
    Saturday   :   4538steps
    His daily target is 9000 steps.

   (i) How many days did he achieve the daily target ?
   ii) Approximate and round the steps to nearest 100 , what was the maximum and minimum values among the approximations ?

   (a)Max value = 11400, Min value = 4500
   (b) Max value = 12000, Min value = 3500
   (c) Max value = 10500, Min value = 4000
   (d) Max value = 11500, Min value = 4700.

CLASS -7

CHAPTER 2 - FRACTIONS & DECIMALS

Learning Outcome : The learner interprets the division and multiplication of fractions.

7. Rima bought a Cadbury Chocolate having 24 parts . She shared her chocolate with Aliya , Shelly & Aarti. Aliya & Shelly took three parts each whereas Aarti took four parts. Suddenly Rima's brother dropped in and took half of the chocolate from the left of the parts.


(i)   Who got least share ?

(ii)   What fraction of chocolate was taken away by Rima's brother ?

(a) $\frac{5}{24}$ (b) $\frac{7}{24}$ (c) $\frac{11}{24}$ (d) $\frac{1}{4}$

(iii) How much more is Rima's brother share than Aarti's share ?

(a) $\frac{3}{8}$ (b) $\frac{2}{7}$ (c) $\frac{1}{8}$ (d) $\frac{1}{4}$

CLASS -7
CHAPTER 3 - DATA HANDLING

Learning Outcome : The learner also recognises variability in real life situation such as, variations in the height of students in her class and uncertainty in happening of events like throwing a coin.

1. Four students were asked to rate their opinions on the taste of Sunny's super deluxe hamburger. The scale was from - 2 to + 2, Wher + 2 indicates strongly likes and -2 indiates strongly dislikes which student's opinion of the burger would best be described as "I don't really care. I could take it or leave it"? Opinion on Sunny's Super Deluxe Hamburger
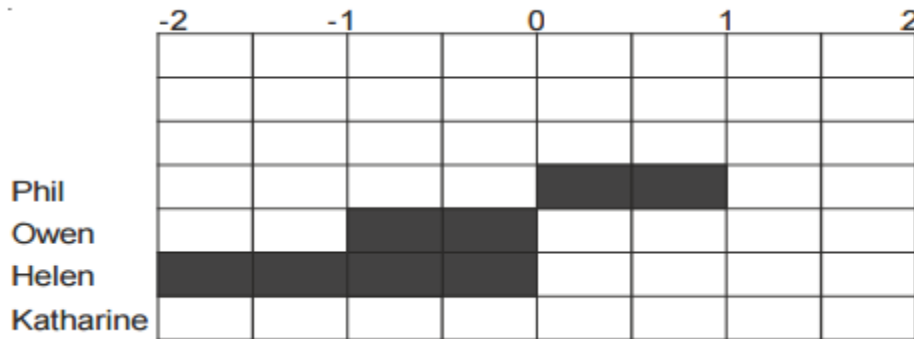
a) Owen   (B) Helen   (C) Katharine   (D) Phil

CLASS -7

CHAPTER 3 - DATA HANDLING

Learning Outcome : The learner determines the probability of an event especially in case of dice and cards.

2. Albert is very fond of collecting coins. There are hundred 50 paisa coins, fifty Rs 1 coins, twenty Rs 2 coins and ten Rs 5 coins in his piggy bank. He wants to take out one coin but want that coin should not be 5 Rs.coin. If it is equally likely that one of the coins will fallout when the bank is turned up side down, what will be the probability that one coin not be 5 Rs coins.

CLASS -7
CHAPTER 3 - DATA HANDLING

Learning Outcome : The learner determines the probability of an event especially in case of dice and cards.

3. A magician was performing a magic trick. He told that two cards are to be chosen, one at a time from a complete deck of 52 cards. After picking each card, the card should be placed back in the deck. Roshni draw the first card which was black face card and kept it with her . what is the probability that the second card which she would chose is a black face card.

Learning Outcome : The learner determines the probability of an event especially in case of dice and cards.

4. Ashok and Sam play a game. They place 6 red marbles, 4 blue marbles and 3 green marbles in a bag. The rules for the game are given below:

In each round, each player has to pick a marble from the bag without looking and place it on a table.

If only one player picks a blue marble, that player will be the winner in that round.

If both the player are pick a blue marble or neither picks a blue marble, that round is a draw.

After 6 rounds, Ashok has won 1 round, Sam has won 1 round and there are 4 drawn rounds. One marble still remain in the bag.

What can we say about the remained marble?

a.) it is definitely red.

b) it is definitely blue.

c) it is either red or green.

d) it is either blue or green.

CLASS -7
CHAPTER 3 - DATA HANDLING

Learning Outcome : The learner determines the probability of an event especially in case of dice and cards.

5. Charlie and Adam were playing. Adam asked Charlie to guess a two digit number such that the sum of its digits is 11.

   1) what are the possible numbers he has guessed.

   2) What is the probability that Charlie guessed a number that is divisible by 4?

CLASS -7
CHAPTER 3 - DATA HANDLING

Learning Outcome : The learner determines the probability of an event especially in case of dice and cards.

6. Rudra was ready for a party. In a drawer there are 4 white socks, 3 blue socks, and 5 grey socks. He was about to take out his socks from the drawer suddenly electricity went off. He did not want to waste time to find the candle and lit it. So in dark he picked two socks randomly.

   What is the possibility that both the socks are of same color?

Learning Outcome : The learner determines the probability of an event especially in case of dice and cards.

7. A survey of 200 people was conducted to find out their blood group. It is found that 50 people have type "A" blood, 65 have "B" blood type, 70 have "o" blood type and 15 have type AB blood. If a person from this group is selected at random,

   i) what is the probability that this person has blood type "O"

   ii) what is the probability that this person has either a blood group A or blood group B

CHAPTER 4 - SIMPLE EQUATIONS

Learning Outcome : The learner represents daily life situations in the form of a simple equation and solves it.

1. You look at your watch and notice that you still have M minutes remaining for your favourite show to start on T.V. Since you are very anxious, you take a look at your watch again 5 minutes after looking for the first time.
   i.   How many minutes are left for your favourite T.V show to start?
   ii.   What will be the expression for the same.

CLASS -7

CHAPTER 4 - SIMPLE EQUATIONS

Learning Outcome : The learner finds solutions of pairs of linear equations in two variables using different algebraic methods.

2. There is a donation box in a temple. The priest used it for buying his daily bread. One day he finds that there are Rs 500 in the box. Other morning he noticed that "N" number of people put Rs 10 coin in the box during the day and (n+1) number of people put Rs 5 in the box. How many rupees? Money is there in the box at the end of that particular day

CLASS -7
CHAPTER 4 - SIMPLE EQUATIONS

Learning Outcome : The learner represents daily life situations in the form of a simple equation and solves it.

3. I and my friend planned to watch a movie. After we booked the tickets, we found that our tickets numbers were two consecutive odd numbers. On adding the tickets numbers their sums was equal to 68. Find the actual seat number of our movie ticket.

CLASS -7
CHAPTER 4 - SIMPLE EQUATIONS

Learning Outcome : The learner represents daily life situations in the form of a simple equation and solves it.

4. Ram, Shyam, Mohan wrote the equation $X - 2 = 11$ in the form of the statement shown below.   .

   Ram : 2 subtracted from x is 11

   Shyam: The number x is greater than 11 by 2

   Mohan; 11 subtracted from x is 2

   Which among them wrote the statement correctly?

CHAPTER 4 - SIMPLE EQUATIONS

Learning Outcome : The learner represents daily life situations in the form of a simple equation and solves it.

5.   In a region, there are some Mexican, Chinese and Indian people.

1. The number of Chinese is three times the number of Mexicans.

2. The Number OF Indian is 6 less than the number of Chinese.

3. The number of people in the region is 5 times the number of Indians

Which of the following equation can help to find out the number of Mexicans?

 (Assume number of Mexican = x)

(A) $x + 3x + 3x + 6 = 5(3x + 6)$

(B) $7x - 6 = 15x - 30$

(C) $7x - 6 = 15x - 38$

(D) $X + 3x + x + 6 = 5(x + 6)$

CHAPTER 4 - SIMPLE EQUATIONS

Learning Outcome : The learner finds solutions of pairs of linear equations in two variables using different algebraic methods.

6. Ram Lal had some bananas, and he divided them into two lots A and B. He sold the first lot at the rate of Rs 2 for 3 bananas and the second lot at the rate of Rs 1 per banana, and got a total of Rs 400.If he had sold the first lot at the rate of Re 1 per banana, and the second lot at the rate of Rs 4 for 5 bananas, his total collection would have been Rs 460. Find the total number of bananas he had.

CLASS -7
CHAPTER 4 - SIMPLE EQUATIONS

Learning Outcome : The learner finds solutions of pairs of linear equations in two variables using different algebraic methods.

7. There are some students in the two sections, section A and B. To make the number of students equal in each section, 10 students are shifted from section A to B, but if 20 students are sent from B to A, the number of students in A becomes double the number of students in B. Find the number of students in the two halls.

Learning Outcome : The learner classifies pairs of angles based on their properties as linear, supplementary, complementary, adjacent and vertically opposite and finds value of the one when the other is given.

1. A store uses piece of tape to decorate the advertisement. The tape is put around the advertisement in such a way that the two tapes are included at an angle of 80° as shown in figure. Help him to find the value of ∟1 by giving logic behind it.
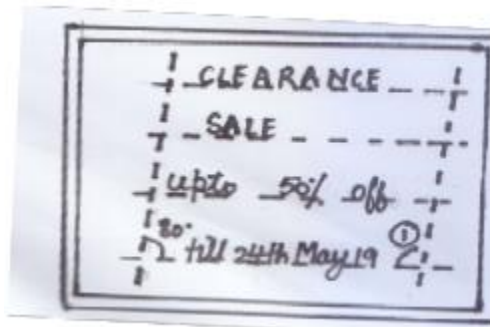
CLASS -7
CHAPTER 5 - LINES AND ANGLES

Learning Outcome : The learner classifies pairs of angles based on their properties as linear, supplementary, complementary, adjacent and vertically opposite and finds value of the one when the other is given.
The learner verifies the properties of various pairs of angles formed when a transversal cuts two lines.

2. Sarita was trying to iron her clothes on a cot but she was unable to do so. Then she decided to buy an iron stand. Iron stand which she bought was of the following shape (as shown in the figure).If the angle made is 35° between one leg of the iron stand and the ground then find the value of x and y.
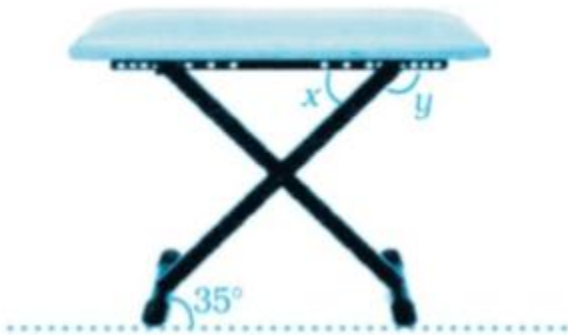
Learning Outcome : The learner verifies the properties of various pairs of angles formed when a transversal cuts two lines.

3. Reema purchased a flat in a high rising building on 13th floor. From the balcony of her flat she could see the full view of the city. She saw that in front of her building a road crosses a railway line at an angle of 30° as shown in the figure. Seeing it the concept of parallel lines clicked in her mind and she started to find the different angles made by the two. Help Reena to find these angles marked in the figure?
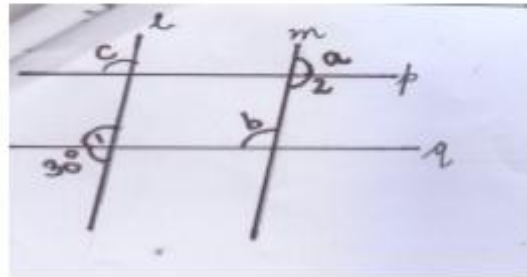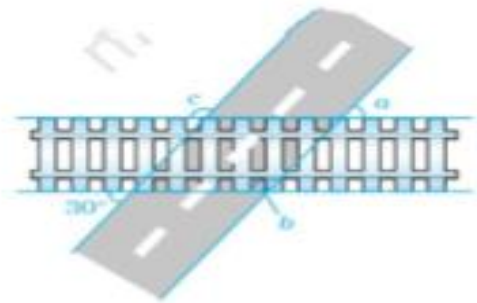
CHAPTER 5 - LINES AND ANGLES

Learning Outcome : The learner verifies the properties of various pairs of angles formed when a transversal cuts two lines.

4. Sandly has invited his friends to show his newly build house. He was standing in lawn waiting for his friends. In the mean time he looked up, noticed that the edges of roof of his house is forming an obtuse angles .He started finding the angles using the concept of parallel lines. Find the angles made on the edges of the roof.
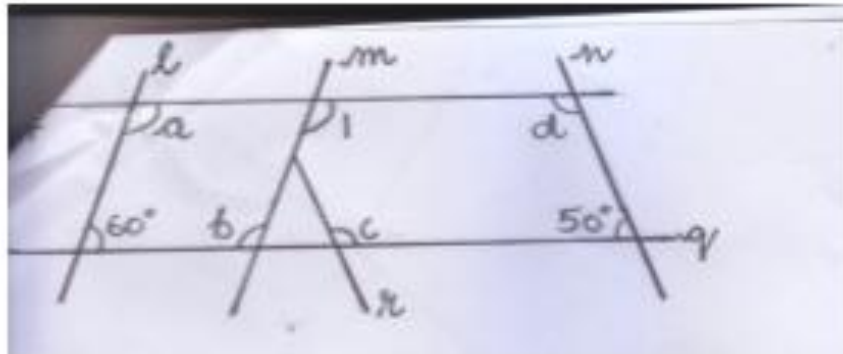
CLASS -7
CHAPTER 5 - LINES AND ANGLES

Learning Outcome : The learner classifies pairs of angles based on their properties as linear, supplementary, complementary, adjacent and vertically opposite and finds value of the one when the other is given.

5. The drawing below show angles formed by the goal post sat different position of a football player. The greater the angle the better chance the player has of scoring a goal. For ex. The player has a better chance of scoring a goal from position A than from position B
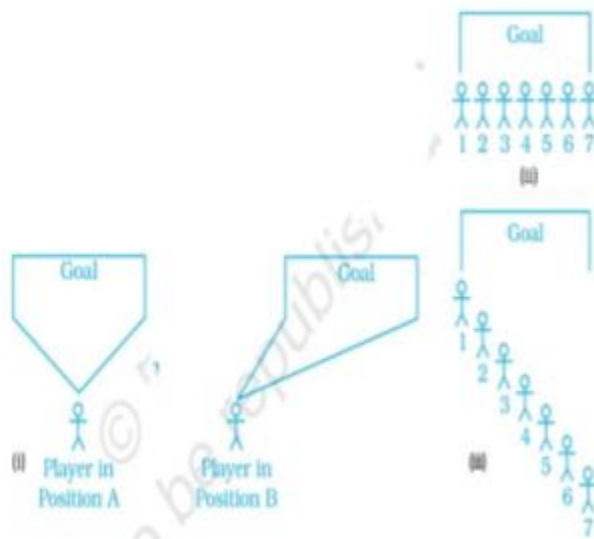
a) Seven football players are practicing their kicks. They are lined up in a straight line in front of the goal post(fig ii) which player has the best kicking angle and what is its measure?
b) Now the players are lined up as shown in fig (iii), which player has the best kicking angle?
c) Estimate at least one situation such that the angle formed at different position of two players are complement to each other.

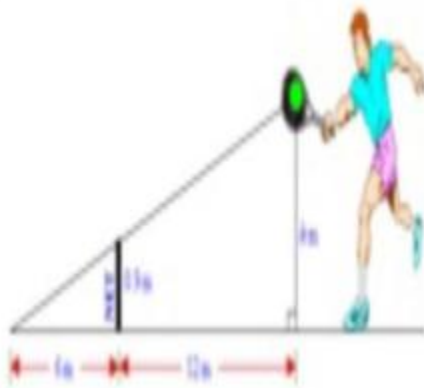# CLASS -7
CHAPTER 6 - TRIANGLE AND ITS PROPERTIES

Learning Outcome : The learner finds out approximate area of closed shapes by using unit square grid/graph sheet and also calculates areas of the regions enclosed in a rectangle and a square.

1. Raghu wanted to buy a rope to fence his field in which two sided pointing

   towards East and North directions are 12 m 35 m respectively. Unfortunately, he forgot the length of the side joining the ends of previous two sides. Kindly help him in buying the total length of rope needed for fencing.

CLASS -7
CHAPTER 6 - TRIANGLE AND ITS PROPERTIES

Learning Outcome : The learner works out ways to differentiate between congruent and similar figures.

2. Nitin is practicing playing tennis for his upcoming tournament. He wants to find out the height, h at which he must hit the ball so that it will just pass over the net and land 6 m away from the base of the net.
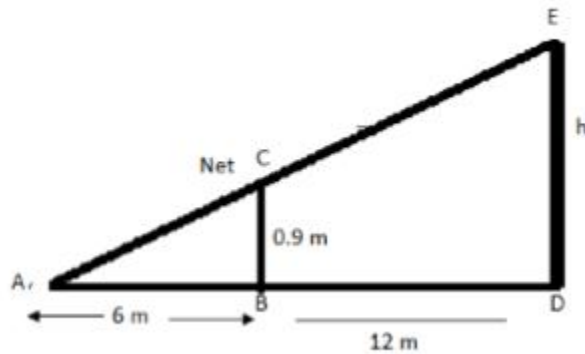
CLASS -7
CHAPTER 6 - TRIANGLE AND ITS PROPERTIES

Learning Outcome : The learner finds out approximate area of closed shapes by using unit square grid/graph sheet and also calculates areas of the regions enclosed in a rectangle and a square.

3. Annie has 96 inches of lace to be put around a scarf, that she is preparing for her mother.
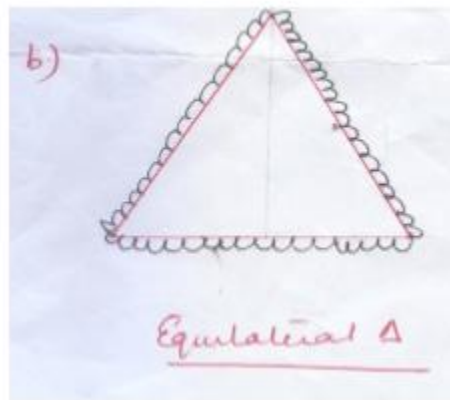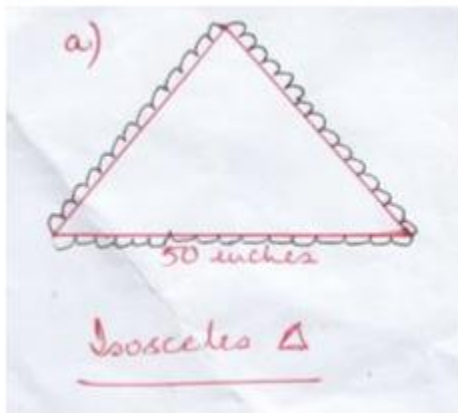

a) If she plans a scarf in the shape of an isosceles triangle with base 50 inches, how long will be the two equal sides?

b) If she plans the scarf to be in the shape of an equilateral triangle, then what will be the length of each side of the scarf?

CHAPTER 6 - TRIANGLE AND ITS PROPERTIES

Learning Outcome : The learner finds unknown angle of a triangle when its two angles are known.

4.   Riya's mom made her a sandwich which is 8 cm long and 6 cm wide. Looking at the sandwich, Riya remembered what she learnt in her maths class about right triangles, so she cuts the sandwich about eight triangles, so she cuts the sandwich diagonally in two halves. She then calculates the length of the cut edge.
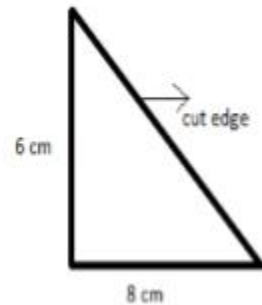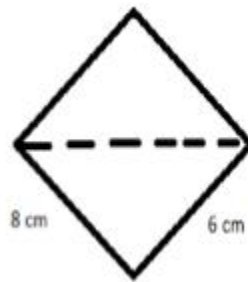
Can you help her find the length of the cut edge?

Learning Outcome : The learner finds unknown angle of a triangle when its two angles are known.

5. Amit and Rohit plan to paint a shed in their backyard which is 23 feet high.

They go to buy a ladder to reach upto the shed. They have a choice of 2 different ladders. One is 20 feet long and the other is 25 feet long.

25 feet

20 feet

If both the ladders have to be placed 4 m away from the base of the shed,

which ladder should they buy?

CLASS -7
CHAPTER 6 - TRIANGLE AND ITS PROPERTIES

Learning Outcome : The learner works out ways to differentiate between congruent and similar figures.

6. Ritu and Meena were standing in a garden on a sunny day. They noticed that the length of their shadow were of different lengths. Ritu measured Meena's shadow and found it was 96 inches long. Then Meena measured Ritu's shadow and found it was 102 inches long.

a) Who do you think is taller?
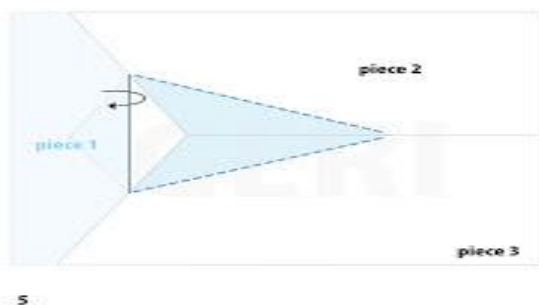
b) If Ritu is 5 feet 4 inches tall, how tall is Meena?

CLASS -7
CHAPTER 7 - CONGRUENCE OF TRIANGLES

Learning Outcome : The learner explains congruency of triangles on the basis of the information given about them like (SSS, SAS, ASA, RHS)

DETECTIVE AND HIS INVESTIGATION

1. Detective at a crime scene found a triangular piece of torn fabric. He remembered that one of the suspects had a hole in their coat.

   Perhaps it was a match!!!!!To avoid tampering with evidence, the investigator did not touch the fabric and could not fit it to the coat directly.

   i) If detective measures all three side lengths of the fabric and the hole, can he make a conclusion about whether or not the hole could have been filled by the fabric. Explain.

   ii) If he measures two sides of the fabric and the included angle and measure two sides of the evidence and included angle for the hole, can he determine if it is a match or not? Explain

CLASS -7
CHAPTER 7 - CONGRUENCE OF TRIANGLES

Learning Outcome : The learner explains congruency of triangles on the basis of the information given about them like (SSS, SAS, ASA, RHS)

2. Park officials need a triangular board to cover a field shaped like an equilateral triangle 200 ft on each side

i) . Suppose he knows that triangular board has two 60 degree angles and one side of length 200ft. Will this board cover the field? Explain.

ii) . Suppose he has a triangular board which has all three 60 degree angles, will, this board covers the field? Explain.

CLASS -7
CHAPTER 7 - CONGRUENCE OF TRIANGLES

Learning Outcome : The learner explains congruency of triangles on the basis of the information given about them like (SSS, SAS, ASA, RHS)

CAKE

3. Maya had a piece of cake in the shape of an isosceles triangle with angles 26 degree, 77 degree and 77 degree. She wanted to divide it into two equal parts so she cut it through the middle of 26 degree angle to the midpoint of the opposite side and said that she has divided the cake into two congruent pieces. Is this information enough? Explain.

CHAPTER 7 - CONGRUENCE OF TRIANGLES

Learning Outcome : The learner explains congruency of triangles on the basis of the information given about them like (SSS, SAS, ASA, RHS)

DOOR STOPPER

4. Two door stoppers have cross sections that are right triangles. They both have a 20 degree angle and the length of the side between the 90 degree and 20 degree angles are equal. Are the cross sections congruent? Explain.

Learning Outcome : The learner explains congruency of triangles on the basis of the information given about them like (SSS, SAS, ASA, RHS)

5. The roof top of Amir's house creates an equilateral triangle with the floor. He wants to divide it by placing a wall from the centre of the roof to the floor at 90 degree angle. If Amir does this, then each section will have a side and corresponding 90 degree angle. What else must be explained to prove that the two triangular sections are congruent?
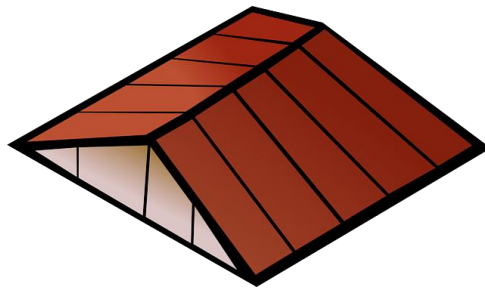
Learning Outcome : The learner explains congruency of triangles on the basis of the information given about them like (SSS, SAS, ASA, RHS)

6. Samira installs bathroom tiles. Her current job required tiles that are equilateral triangles and all tiles should be congruent. She has a big sack of tiles, all in the shape of equilateral triangles. What must she measure on each tile to be sure that they are congruent? Explain.
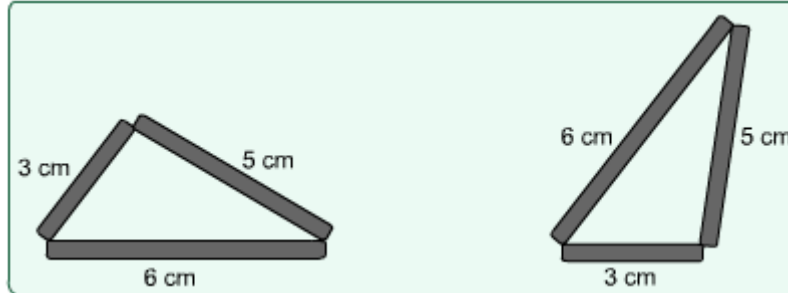
Learning Outcome : The learner explains congruency of triangles on the basis of the information given about them like (SSS, SAS, ASA, RHS)

7. A teacher was teaching the concept of congruency in the class. She explained different congruency Q criteria for proving the given triangles congruent like SSS, ASA, SAS, RHS etc. Then she gave three sticks to Simon and Aalap as shown below -
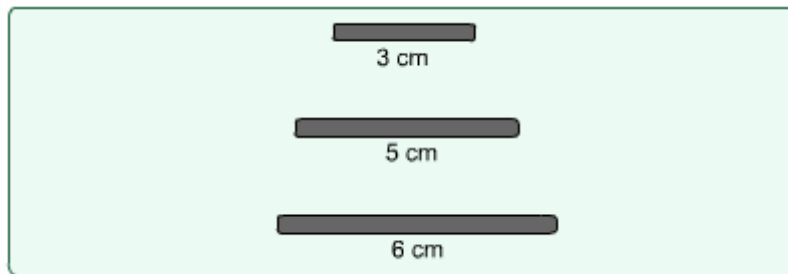
Both of them made a triangle each using all three sticks such that the ends of the sticks meet. These were the triangles they made:


Are the two triangles congruent?

CLASS -7

CHAPTER 7 - CONGRUENCE OF TRIANGLES

Learning Outcome : The learner finds unknown angle of a triangle when its two angles are known.

8. A pyramid is a structure whose outer surfaces are triangular and converged to a single step at the top making the shape pyramid in the geometrical sense. The base of a pyramid can be trilateral, quadrilateral or of any polygonal shape.
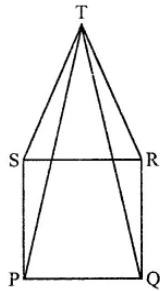
In the figure PQRS is a square & SRT is an equilateral triangle. Then the value of ∠TQR is

a) 30° b) 45°

c) 15° d) 7.5^o

CLASS -7
CHAPTER 8 - COMPARING QUANTITIES

Learning Outcome : The learner solves problems related to conversion of percentage to fraction and decimal and vice-versa.

1. Three candidates Ajay, Bijoy and Chandan contested an election and received 1800, 3300 and 3900 votes respectively. What percentage of the total votes did Ajay get?

A) 20 %

B) 40%

C) 45%

D) 70%

Learning Outcome : The learner calculates profit/loss percent and rate percent in simple interest.

2. Sam is a shopkeeper and has a shop of toys. He buys toys on bulk from a whole sale shop like all other shopkeepers. Sam noticed that Fidget spinner is in demand now a days and it helps to calmdown people with anxiety disorder. He went to whole sale shop and purchased 20 dozens of Fidget spinner at the rate of Rs. 375 per dozen. He then sold each one of them at the rate of Rs. 33. How much profit has he made? Find in percentage.

a) 3.5%   b)4.5 %   c) 5.6%   d) 6.5%

Learning Outcome : The learner calculates profit/loss percent and rate percent in simple interest.

3. Venkatesh invested a certain sum of money in a bank that paid simple interest. The amount grew to Rs. 2400 at theend of 2 years. He waited for another 3 years and received a final amount of Rs. 30,000. What was the principal amount that he invested at the beginning?

A) Rs. 20,000
B) Rs. 15,000
C) Rs. 17,500
D) Rs. 21,000

CLASS -7
CHAPTER 8 - COMPARING QUANTITIES

Learning Outcome : The learner solves problems related to conversion of percentage to fraction and decimal and vice-versa.

4. Kabir and Preeti are playing number games. They are discussing about various numbers. Kabir has recently studied about the concept of percentage. So, Preeti asked him a question. What percent of numbers from 1-30 have 1 or 9 at the unit's place ?

    a) 12 %   b) 15%   c) 20%   d) 22%

CHAPTER 8 - COMPARING QUANTITIES

Learning Outcome : The learner solves problems related to conversion of percentage to fraction and decimal and vice-versa.

5. Shivani works in an International company in Mumbai, but it is away from her home town so she decided to live on rent in Mumbai with her child. Her monthly income is Rs 1,60,000. She pays 16% of this as her house rent and10 % of remaining on her child's education. The money left with her is

a) Rs 1,36,000

b) Rs 1,20,000

c) Rs 1,21,960

d) Rs1,20,960

CLASS -7
CHAPTER 8 - COMPARING QUANTITIES

Learning Outcome : The learner solves problems related to conversion of percentage to fraction and decimal and vice-versa.

6. In a quarterly examination a Saksham secured 30% marks and got failed by 12 marks. In the same examination Nityam secured 40% marks and got 28 marks more than minimum marks to pass. The maximum marks in the examination is

   A) 300
   B) 500
   C) 700
   D) 400

Learning Outcome : The learner calculates profit/loss percent and rate percent in simple interest.

7. A trader sells rice to many grocery stores across the city. He is dealing with two variety of rice one he uses is of average quality and it cost him Rs. 20 per kg and other i.e. of good quality cost him Rs. 36per kg.

In order to gain profit he mixes both varieties and sells it to grocery store. For one order, he mixes 26 kg of rice of average quality with 30 kg of rice of good quality and then sold the mixture at Rs. 30 per kg. How much profit has his made? Find in percentage.

   a) No profit, no loss   b) 5 %

   c)8%   d)10%

CLASS -7
CHAPTER 8 - COMPARING QUANTITIES

Learning Outcome : The learner calculates profit/loss percent and rate percent in simple interest.

8. Mr. Thomas wants to invest some part of his savings in some schemes so that he can get good interest. He searched for different schemes and found two schemes with maximum profit. He invested an amount of Rs. 13,900 in two different schemes A and B at the simple interest rate of 14% p.a. and 11% p.a. respectively. At the end of two years he earned total interest Rs. 3508. How much amount he had invested in Scheme B?

a) Rs. 6400   b) Rs. 6500   c) Rs.6450   d) Rs. 4500

CLASS -7
CHAPTER 8 - COMPARING QUANTITIES

Learning Outcome : The learner distinguishes quantities that are in proportion. For example, tells that 15, 45, 40, 120 are in proportion as 15/45 is the same as 40/120.

9. Wow Candiessss!!! Two friends Akshita and Beenu had some candies each. One of them had15 candies more than the other. The candies with Akshita were 60% of the total candies with both of them. How many candies did each have?

A)   40, 25
B)   47, 32
C)   45, 30
D)   49, 34

Learning Outcome : The learner distinguishes quantities that are in proportion. For example, tells that 15, 45, 40, 120 are in proportion as 15/45 is the same as 40/120.

10.   Bank A pays 5% interest on its savings accounts.

        Bank B pays 4% interest on its savings accounts.

Column A	Column B
The percent by which bank B would have to raise its interest rate to match bank A	20%

Which of the following statement is correct?

a) If the quantity in Column A is greater
b) If the quantity in Column B is greater
c) If the two quantities are equal
d) If it is impossible to determine which quantity is greater

CLASS -7
CHAPTER 8 - COMPARING QUANTITIES

Learning Outcome : The learner calculates profit/loss percent and rate percent in simple interest.

11. Jeans at Levi's showroom are at 40% off. Rohit and Mohit want to buy a pair of jeans for their friend which was originally priced at Rs. 4200. They also want to redeem a Levi's voucher worth a cash discount of 15%. How much will they pay for a pair of jeans?

Learning Outcome : The learner calculates profit/loss percent and rate percent in simple interest.

12. Rina wants to shift from Panchkula to New Chandigarh. She decided to sell her old flat in Panchkula so that she can buy a flat in New Chandigarh. She approaches a property dealer for selling her old flat and with the same money she wants to buy flat in New Chandigarh. Property dealer told her that currently property rates are less and he can give Rs.18,7000 for her plot. She calculated and found out that if she sold it for Rs. 187000, she loses 15% and with that amount she can not buy flat in new Chandigarh as for that flat she needs a profit of 15% . At what priceshould she sold in order to buy new flat.

CLASS -7
CHAPTER 8 - COMPARING QUANTITIES

Learning Outcome : The learner calculates profit/loss percent and rate percent in simple interest.

13. Ramesh has installed play station at hishome worth Rs. 20,000. He gets to know that his friends are going out to play video games and are paying large amount of money to the shopkeepers. So he decided to allow his friends to play at his home same games and offer them that he will charge less than the shopkeeper. Hecalculated electricity expenses per hour. On first day he earned Rs.392 for one hour and found out that he make a profit of 22.5% on the cost of electricity(for an hour) . Find the profit earned by him for that hour.

Learning Outcome : The learner solves problems related to daily life situations involving rational numbers.

1. Ekta and Jatin are playing a game. They have to pick a slip with a number written on it from the bowl and stand on that number on the number line drawn on the floor. Ekta gets -8/5 and Jatin gets -24/15. They start fighting for their position. Explain why?

Learning Outcome : The learner solves problems related to daily life situations involving rational numbers.

2. Ritu walks 3/2 Km from point A towards east and then turns back and walks $1\frac{2}{5}$ km in the opposite direction on the same road. What is her distance from point A and in which direction is she facing?

Learning Outcome : The learner solves problems related to daily life situations involving rational numbers.

3. Gayatri bought 2 ½ kg mangoes and $1\frac{3}{4}$ kg grapes from the market. The family ate $1\frac{1}{4}$ kg mangoes and ½ kg grapes. How many kgs of fruits are left?

CLASS -7
CHAPTER 9 - RATIONAL NUMBERS

Learning Outcome : The learner solves problems related to daily life situations involving rational numbers.

4. Mr. Paul is a tailor. He bought 5 m of cloth for Rs.162 ½ . While cutting, $1\frac{1}{4}$ m of cloth gets wasted. He stitches two dresses of the same type. What is the length of cloth used in each dress?

CLASS -7
CHAPTER 9 - RATIONAL NUMBERS

Learning Outcome : The learner solves problems related to daily life situations involving rational numbers.

ICC Cricket World Cup 2019

5. The **2019 ICC Cricket World Cup** was the 12th Cricket World Cup, a quadrennial, One Day International cricket tournament contested by men's national teams and organised by

the International Cricket Council (ICC). It was hosted by England and Wales. The tournament was contested by 10 teams, who played in a single round-robin group, with the top four at the end of the group phase – India, Australia, New Zealand and England –

Country	Player	Matches	Innings	Runs	HS	AVG	SR	100	50	4s	6s
India	Rohit Sharma	9	9	648	140	81	98.3	5	1	67	14
Australi	David Warner	10	10	647	166	71.88	86.36	3	3	66	8
Banglade sh	Shakib Al Hasan	8	8	606	124	86.57	96.03	2	5	60	2
New Zealand	Kane William son	10	9	578	148	82.57	74.96	2	2	50	3
England	Joe Root	11	11	556	107	61.7	89.53	2	3	48	2
	Total	48	47	3035	685	383.72			14	14	291	29

progressing to the semi finals.

Following are the details of top five batsmen :

I. In the above data the runs scored by each player is mentioned. According to the given data who scored the maximum runs and what part of total runs he scored?

II. How many players scored one seventh of total hundreds scored by all players given in data?

   a. 4   b. 1   c. 2   d. 3

III. What fraction David Warner needed to increase in his part to be equal to Rohit Sharma's part to the total 100s?

   a. 1/7   b.2/7   c. 3/14   d.1/14

IV. What will be the difference of the fractions of 4s by Rohit Sharma and 4s by Joe Roots?

V. Which players played the fraction of matches' equivalent to one eighth of 5/3? And what is the fraction?

CLASS -7
CHAPTER 9 - RATIONAL NUMBERS

Learning Outcome : The learner solves problems related to daily life situations involving rational numbers.

Distance Problem

6. The table given below shows the distances in kilometres between four villages of a state. To find the distance between two villages, locate the table where the row for one village and the column for the other village intersect.

	Himgaon	Sonapur	Rawalpur	Ramgarh
Himgaon		$100\frac{5}{6}$	$98\frac{3}{4}$	$210\frac{3}{8}$
Sonapur	$100\frac{5}{6}$		$98\frac{3}{4}$	$210\frac{3}{8}$
Rawalpur	$98\frac{3}{4}$	$16\frac{1}{2}$		$30\frac{2}{3}$
Ramgarh	$210\frac{3}{8}$	$40\frac{2}{3}$	$16\frac{2}{3}$	

I. Compare the distance between Himgaon and Rawalpur to Sonapur and Ramgarh?

II. If you drove from Rawalpur to Sonapur and then from Sonapur to Himgaon, how far would you drive ?

III. Amit drove from Rawalpur to Ramgarh but exactly halfway he remembered that he forgot his documents, so he went back again to bring his documents. After reaching Ramgarh he decided to go to Sonapur. What was the total distance covered by him?

   a. $61\frac{1}{3}$ km   b. 102 km   c. 100 km   d. 63 ½ km

IV. The distance between Himgaon and Ramgarh is 210 3/8 km. Rohan covered $42\frac{3}{40}$ km ,what part of the total distance was covered by him ?

   a. 1/5   b . 1/6   c .2/3   d. 2/5

CLASS – 7
CHAPTER 11 - PERIMETER AND AREA

Learning Outcome : The learner finds out approximate area of closed shapes by using unit square grid/graph sheet and also calculates areas of the regions enclosed in a rectangle and a square.

1. Ritik shifted to a new colony. One day he wanted to buy some medicines for her mother as she was not well. He contacted his neighbor and asked about chemist shop. He felt very happy to see that his neighbors were very kind and helpful. His neighbor told him to use the way towards verka Booth and from there take right turn. After buying medicines he took different route to come back to his home.
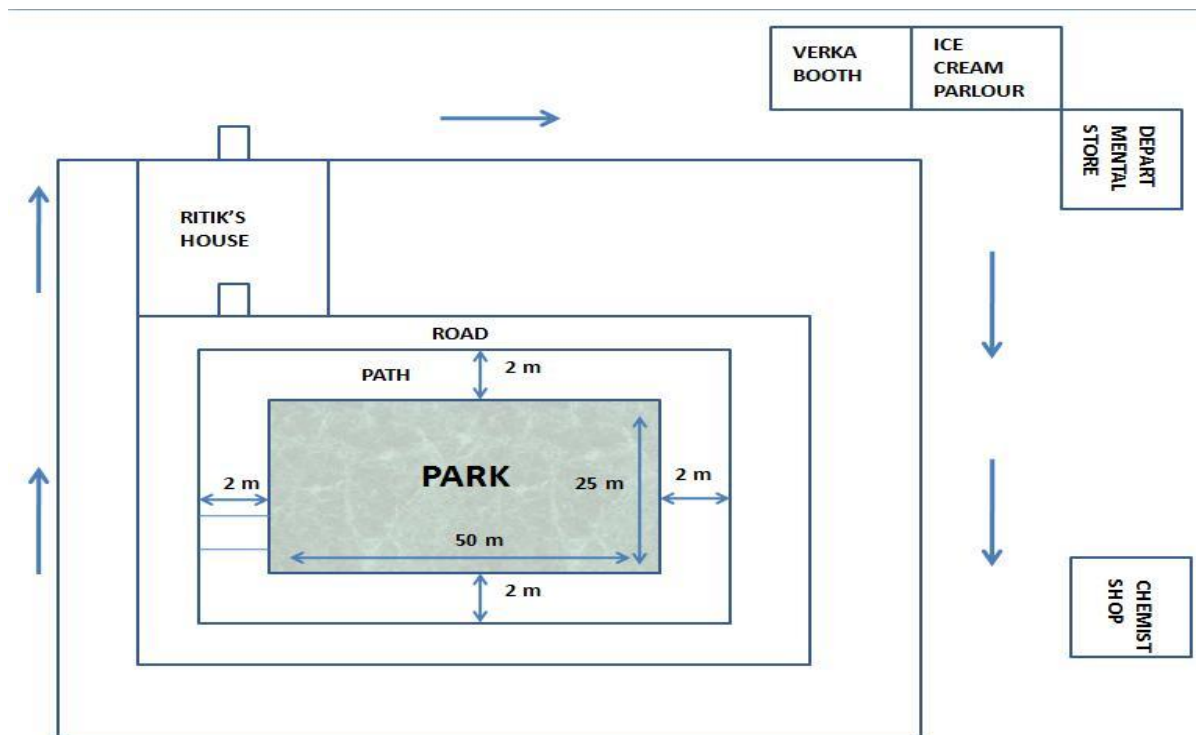
i) After coming home he realized that he took more time than the expected time. He calculated the distance covered by him to reach Chemist shop and also the distance covered to return back. Without calculation find out whether it took him longer time to reach the chemist shop or to come back from the shop.

ii) There was a beautiful park in the centre of the colony. In the evening he went to the park for jogging. He took 5 rounds of the park. How much distance did he cover while jogging?

iii) During jogging he observed that there are no trees in the park. So he suggested the president of the colony to plant more trees and to grow more grass in between the path of the park. Find the area he would have to cover with the grass.

CHAPTER 12 - ALGEBRAIC EXPRESSIONS

Learning Outcome : The learner adds/subtracts algebraic expressions.

1. In a herd of 15 elephants, baby elephants consumes 200 kg greenery and adult elephant consumes 400 kg greenery. If the total consumption of the greenery is 4800 kg in a day, then express the statement algebraically.

CLASS -7
CHAPTER 12 - ALGEBRAIC EXPRESSIONS

Learning Outcome : The learner adds/subtracts algebraic expressions.

2. The expenditure on food for an elephant is thrice the expenditure on medicines for a month. The cost of medicines per elephant per day is 50. Figure out the cost of food per elephant for a month.

CLASS -7
CHAPTER 13 - EXPONENTS AND POWERS

Learning Outcome : The learner uses exponential form of numbers to simplify problems involving multiplication and division of large numbers.

1. Mohan visits all the temple in a city and offers flowers. The number of flowers offered by him in each temple is equal to the total number of temples in the city, if he offered 256 flowers in all. Find the number of temples in the city.

CHAPTER 13 - EXPONENTS AND POWERS

Learning Outcome : The learner uses exponential form of numbers to simplify problems involving multiplication and division of large numbers.

2. In a storage warehouse, each container weights 6^3 pounds. If there are 6^5 containers, how much do the crates weigh in total? Leave your answer in the form a^b pounds.

CLASS -7
CHAPTER 13 - EXPONENTS AND POWERS

Learning Outcome : The learner uses exponential form of numbers to simplify problems involving multiplication and division of large numbers.

3. Hydra is a mythological character that appears in some stories such as the 12 Tasks of Hercules. The Hydra was a one-headed monster but when it is cut off, 2 more heads grow in its place. If a hero tried to conquer it by cutting off all of its heads every day, how many heads would the Hydra have on the third day? And at the end of 10 days of trying to kill it?

Learning Outcome : The learner uses exponential form of numbers to simplify problems involving multiplication and division of large numbers.

4. A student said that $3^5/9^5$ is the same as 1/3. What mistake has the student made? What is the error in this question?

CLASS -7
CHAPTER 13 - EXPONENTS AND POWERS

Learning Outcome : The learner uses exponential form of numbers to simplify problems involving multiplication and division of large numbers.

5. In the class of life sciences the students learnt that the major components of blood in humans are red blood cells (RBC) , white blood cells (WBC) andplatelets. The teacher told that the diameter of RBC is 7×10^{-6} m and that of platelets is 2.33×10^{-6} m . a question arises in a student's mindwhether which has a greater diameter.His friend said that the diameter of RBC is greater. Tell whether he is correct?

CLASS -7
CHAPTER 13 - EXPONENTS AND POWERS

Learning Outcome : The learner uses exponential form of numbers to simplify problems involving multiplication and division of large numbers.

6. A total solar eclipse occurred on July 2 and it was visible over south America. Saudi Arabia, India and Southeast Asia. At the time of eclipse it was noticed that the mass of earth was 5.97×10^{24} kg and mass of moon 7035×10^{22} kg. What is the total mass of both?

CHAPTER 13 - EXPONENTS AND POWERS

Learning Outcome : The learner uses exponential form of numbers to simplify problems involving multiplication and division of large numbers.

7. There is a family in a village of Punjab where one person has 4 children and then each of these children have 4 children and so on. we get the following population growth

GENERATION	0	1	2	3	4
CHILDREN	1	4	16	64	216

   I. Based on above information which of the following rule describes the above growth pattern

   a) $(2^{gen})^3$

   b) $(2^{gen})^2$

   c) $(2^{gen})^7$

   d) $(gen^2)^2$

   II. Amit, a member of Generation 7, won a lottery and wants to celebrate this by giving presents to all the children of his generation .Will you tell him how many presents he needs to buy?

   III. There are different ways to write a number in exponential forms Eg: $16 = 2^4 = 4^2$

   Fill the following blank on this basis: $64=2^6=$…..

   IV. Ankur is generation 9 child and he wants to calculate percent increase in number of children from Amit's generation to his generation. Help him in calculating the percentage increase.

CLASS -7
CHAPTER 13 - EXPONENTS AND POWERS

Learning Outcome : The learner uses exponential form of numbers to simplify problems involving multiplication and division of large numbers.

8. Ankur and his cousin Anuj were having conversation on distance between Sun and Saturn.Ankur said that the distance was 1433500,000,000m while Anuj said it was $14335 \times 10^{14} m$

    They went to their uncle for the answer. His uncle told them that actual distance is 1.4335×10^{12}m. Who is right Anuj or Ankur?

CLASS -7
CHAPTER 14 – SYMMETRY

Learning Outcome : The learner understands line symmetry and rotation symmetry.

1. Rashmi was playing with a Fidget spinner. She was wondering that how fidget spinners are made so perfectly and its all three blades are identical. When she was playing, her Father asked her to relate Fidget spinner with any Mathematics topic. She related it with symmetry which is very interesting topic of Mathematics. Rashmi's father asked her to explain the following   questions.

i)How many rotational symmetry does it have?

ii) What is the angle of its rotation?

iii) He asked her to tell the number of rotational symmetry and angle of rotational symmetry the new fidget spinner had. What Rashmi had answered?

CLASS -7
CHAPTER 14 – SYMMETRY

Learning Outcome : The learner understands line symmetry and rotation symmetry.

2. Rahul is very fond of coloring. He uses poster colors for making painting. One day his younger brother Rohan by mistake dropped his colours on a white sheet of paper and to hide his mistake he folded the sheet of paper and kept it in his notebook. Next day on opening it he found a beautiful design (figure).

i) What type of image he mistakenly had made?

ii) How many lines of symmetry did it have?

Learning Outcome : The learner understands line symmetry and rotation symmetry.

3. Reflection symmetry is a symmetry with respect to a axis or a line. In Maths class Reshma teacher asked her to write all the English alphabets on the board. Then she called students one by one and asked them to draw a line vertically or horizontally in such a way that it divides the alphabet into two identical parts.

i) Name the alphabets which have horizontal line of symmetry.

ii) Name alphabets which have vertical line of symmetry.

iii) Name alphabets which have both lines of symmetry.

CLASS -7
CHAPTER 15 - VISUALISING SOLID SHAPES

Learning Outcome : The learner sees hidden parts of the solid shapes.

1. Malini and Renuka wants to play snakes and ladders but unfortunately they don't have a die. They started making die with the help of simple cardboard using different net methods. Which one of the following will be correct, if the sum of numbers on the opposite faces of die should be 7?
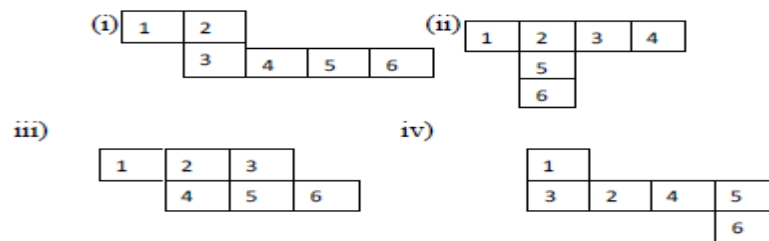
(i)

1	2		
	3	4	5	6

(ii)

1	2	3	4
	5		
	6		

iii)

1	2	3	
	4	5	6

iv)

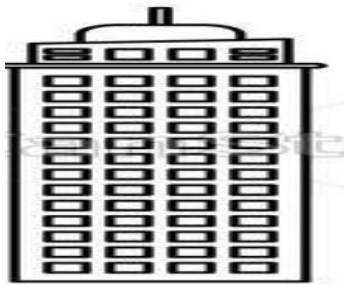| 1			
3	2	4	5
			6

CLASS -7
CHAPTER 15 - VISUALISING SOLID SHAPES

Learning Outcome : The learner sees hidden parts of the solid shapes.

2. Ankita has a toy in the shape of a cylinder surmounted by a cone.

   How many surfaces will this toy have?

   i) 1   ii) 2   iii)3   iv) 0

CLASS -7
CHAPTER 15 - VISUALISING SOLID SHAPES

Learning Outcome : The learner sees hidden parts of the solid shapes.

3. Marisha has 2 shoe boxes of the same size. She wants to join both the boxes to make a big box opened from the top to keep her jewellery . How many faces will the new box have?
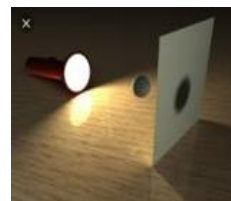
  a) 5 b) 8   c) 6   d) 7

CLASS -7
CHAPTER 15 - VISUALISING SOLID SHAPES

Learning Outcome : The learner sees hidden parts of the solid shapes.

4. Mr. Malik told Sumit to bring a few solid shapes from the Maths Lab. One cube slipped from his hand and broke from one corner. The part which is broken from the corner is in triangular shape. How many vertices that broken cube has?
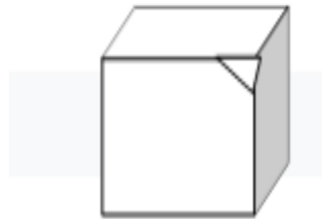
CLASS -7
CHAPTER 15 - VISUALISING SOLID SHAPES

Learning Outcome : The learner sees hidden parts of the solid shapes.

5. The owner of a Mall has done some modification in the mall. He had changed the shape of the lift to a Hexagonal prism form. How many edges does the lift have now?

Learning Outcome : The learner sees hidden parts of the solid shapes.

6. Mr. Fernandes bought a 20 marla plot for his joint family. The architect made an outline map of the house in an isometric sketch on the paper. Each room is in the form of a cube with equal length, breadth and height. How many rooms are there in the given sketch?
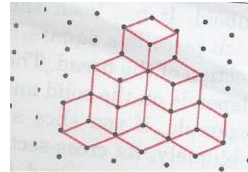
   a) 11
   b) 10
   c) 9
   d)15

CLASS -7
CHAPTER 15 - VISUALISING SOLID SHAPES

Learning Outcome : The learner sees hidden parts of the solid shapes.

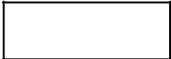7. Yogi had gone to Bombay is his summer vacation. He was surprised to see many multi-storied buildings there. One day he stood in front of one building and started counting number of houses in that. The building was in a cuboidal shape. There were 30 houses in one row and 4 rows on one side of the building. The ground floor was used for parking area .How many houses were there in all?
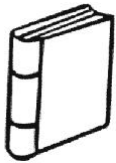
CHAPTER 15 - VISUALISING SOLID SHAPES

Learning Outcome : The learner sees hidden parts of the solid shapes.

8. Ishita, Shruti and Roveena are three roommates in CEPT University's hostel .One night when there was no electricity in their room, they planned to play a game with the help of a torch.

    a) Ishita was holding the torch and Shruti held the object in front of the torch and the shadow of the object was falling on the wall. If Roveena saw a rectangle in the shadow, what can be the object that Shruti was holding?

    b) Later,Roveena observed a circular shadow on the wall .What can be the object that Shruti was holding?

CLASS -7
CHAPTER 15 - VISUALISING SOLID SHAPES

Learning Outcome : The learner sees hidden parts of the solid shapes.

9. Mr. Nair decided to construct a house. The constructor told Mr. Nair to order 2000 bricks. On receiving the bricks they were
    stacked in the form of a cuboid. But when the constructor saw the bricks he told Mr. Nair that bricks were less in number. Mr. Nair started counting. 15 bricks were stacked length wise, 10 width wise, 10 bricks heights wise and 100 bricks were scattered here and there. How many bricks did he count?

CHAPTER 15 - VISUALISING SOLID SHAPES

Learning Outcome : The learner sees hidden parts of the solid shapes.

10. Shadow is a dark (real image) area where light from a light source isblocked by an opaque object. The cross section of a shadow is two-dimensional , of the object blocking the light .

Shadow of a 3D object is ☐

which of the following Could be the object ?

a)　　　　　　　b)　　　　　　c)　　　　　d)

CLASS -7
CHAPTER 15 - VISUALISING SOLID SHAPES

Learning Outcome : The learner sees hidden parts of the solid shapes.

11. Ramesh has prepared a map of his town using different shapes representing different buildings.

i) The number of hospitals in the town is

    a. 4   b. 1

    c. 2   d. 3
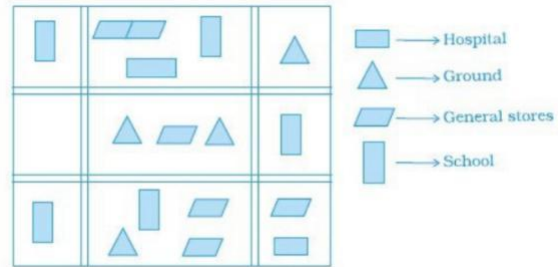
ii) The ratio of number of general stores to that of ground is

    a. 1:2   b. 2:1   c. 2:3   d.3:2

iii) The ratio of number of schools to number of hospitals is

    a. 2:5   b. 5:2   c. 3:2   d. 5:6

CLASS -7
Supplementary Resource Material

LOGICAL REASONING

1. A Joint family has a husband and a wife, their four sons and their wives. Every son has three sons and a daughter. Find out the total number of male members in the family.
   A) 4
   B) 8
   C) 12
   D) 17

CLASS -7
Supplementary Resource Material

LOGICAL REASONING

2. CTU buses leave Chandigarh Bus Stand after every 30 minutes. A passenger asked at the enquiry desk about the bus timings. The clerk told him that the bus had already left ten minutes ago and next bus will be leaving at 9.35 am. At what timedid the clerk give this information to the passenger?
   A) 9:10 am
   B) 8:55 am
   C) 9:05 am
   D) 9:15 am

LOGICAL REASONING

2. If the cost of one Milkybar is Rs 10 then how many Milkybars will you get for Rs 60 if you get one free chocolate on a purchase of three chocolates?

FREE FREE FREE

Buy three milkybars and
get one absolutely *FREE*

A) 6
B) 8
C) 10
D) 12

CLASS -7
Supplementary Resource Material

LOGICAL REASONING

4.   PVR Ltd. is the largest and the most premium film exhibition company in India. Since its inception in 1997, the brand has redefined the cinema industry and the way people watch movies in the country.In PVR Elante, Chandigarh there are rows marked from A to L (Row 'I' is not there) and each row has fifteen seats with numbers written from left to rightVansh and his mother Reema booked the movietickets and got seats G6 and G7. If Vansh is sitting on seat G6, what will be his position from the other side.

A) 6th
B) 8th
C) 9th
D) 10th

LOGICAL REASONING

5.   VALUE OF THE WORD

Ankit and Meena are siblings. Their mother gives them a task. To accomplish the task she directed them to use the alphabets as follows. She asked them to categorise the English alphabets into five groups such that each group starts with a vowel and have immediately following consonants in the group.

| A B C D | E F G H | I J K L M N | O P Q R S T | U V W X Y Z |

These groups are assigned values as 10 for the first group, 20 for the second and so on upto 50 for the last group. Each letter in a particular group has the same value as that of the group. Then value of the word is obtained by adding the values of the respective letters of the word.

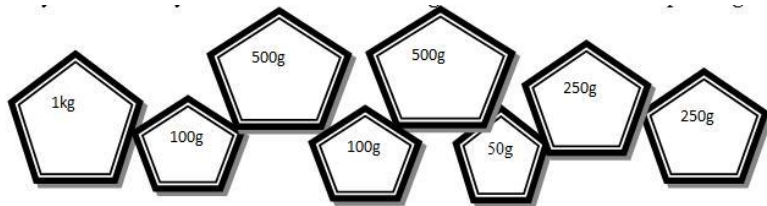 What would be the value of the word "HIGH"?

A) 80
B) 90
C) 110
D) 120

LOGICAL REASONING

6. In how many different ways can we combine the weights shown here to add up to 2kg?

A) 2
B) 3
C) 4
D) 5

LOGICAL REASONING

7. A dice is numbered from 1 to 6 (with the dots) in a way that sum of the numbers on opposite faces comes to be 7. Such dice is called usual dice.

   Three friends Kashish Manjot and Samar have their own usual dice and thrown them simultaneously. The outcomes are shown in the picture. The total of the numbers on the top faces is 7. What will be the total of the faces touching the ground?

CLASS -7
Supplementary Resource Material

LOGICAL REASONING

VILLAGE

8. In a village of Bastar district in Madhya pradesh only two types of people belong to a tribal class. First type is known as class A while the other is known as class B. In that village there is no other type of persons except these two. Activity of both type of people are governed by perfectly patterned norms of social behavior. Each of people of that tribe has to obey the norms and they are rigid about these norms -

    As far as marriage is concerned the following norms are to be followed-

    - Members of class A cannot marry a member of their own class but can only marry the members of class B.

    - After being married, each male member loses the membership of the class in which he was born but becomes the member of the class to which his wife belongs.

    - As far as the female is concerned, she remains the member of her own class even after marriage.

    - When a child is born he/she automatically becomes the member of his/her mother's class.

    - Whereas after a divorce or after being a widower, the male member gains back the membership of his original class.

    - Nobody can marry more than one person according to social laws.

    If Ravi kishan a child belonging to class B what would be the class of his grandfather?

LOGICAL REASONING

9.   **PIZZA**

Kareena and Fatima are pizza lovers. They collected money and together went to La Pinoz to enjoy a medium pizza.There they can have a La Pinoz special pizza or they can choose the ingredients to make their own pizza

The price list is given below:

Product	Price in Rs
Pindiz special pizza	180 or 150
Bread	90or 120 or13 0
Cheese	35or 45
Toppings	25 or40 or50

I.   They want their pizza with their own choices. Then what are the minimum and maximum prices of pizza in the shop.

II.   If both of them collectively have Rs. 200 and wants to buy most expensive pizza which they can afford. How much money can they afford to spend on each?
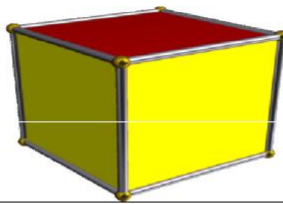
Pizza ingredients	Price in Rs
Bread	
Cheese	
Toppings	

CLASS -7
Supplementary Resource Material

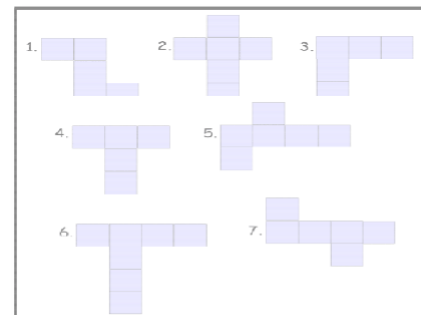## LOGICAL REASONING

10.   **CUBE**

In geometry, a **cube** is a three-dimensional solid object bounded by six square faces, twelve edges, with three meeting at each vertex and *net*is a two-dimensional figure that can be folded into a three-dimensional object. A cube has elevennetsthat is, there are elevenways to flatten a hollow cube by cutting seven edge

Some students doing an activity of making cube nets and they prepare following nets. Which of the nets below will form a cube?

CLASS -7
Supplementary Resource Material

LOGICAL REASONING

11. At each stage the black dot moves three corners clockwise and the white dot moves four corners anticlockwise. after how many stages will both dots be together in the same corner?
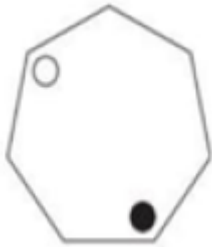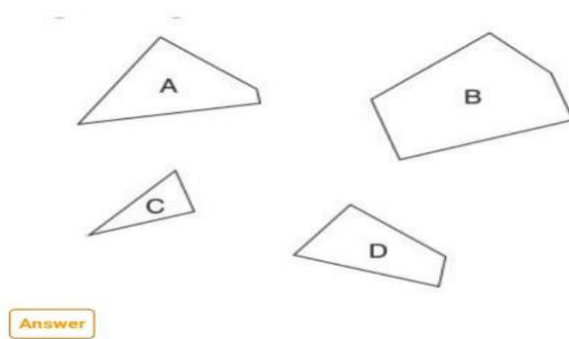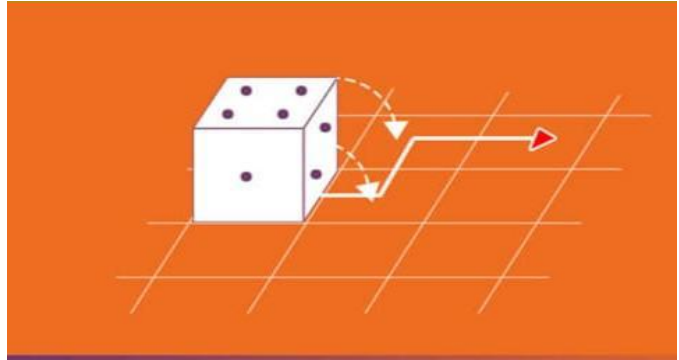
LOGICAL REASONING

12. which three of the four pieces below can be fitted together to form aperfect square?

Answer

CLASS -7
Supplementary Resource Material

LOGICAL REASONING

13. If the dice will be moved until the pointed arrow's end, which number will be on the top?

CLASS -7
Supplementary Resource Material

LOGICAL REASONING

14. Reshma and Parveen are ranked ninth and thirteenths from the top in a class of 57 students. What will be their respective ranks from the bottoms of the class?

a) 48,44

b) 49,45

c) 45,49

d) 47,43

CLASS -7
Supplementary Resource Material

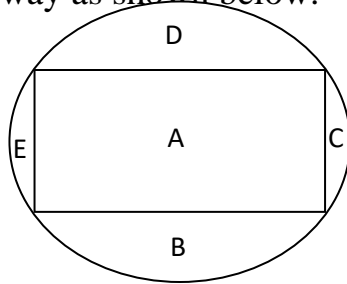## CIRCLES AND ITS PARTS

1.

Pizza party

Pizza is a savory dish of Italian origin, consisting of a usually round, flattened base of leavened wheat-based dough topped with tomatoes, cheese, and various other ingredients baked at a high temperature, traditionally in a wood-fired oven

Seema invited her friends for the Pizza party and asked everyone to bring their favorite Pizzas. Her friends Rema, Manisha , Ruchi and Rinki brought some pizzas. When the pizza was cut Rinki the youngest among all asked about the shape of the Pizza.

I.   What had her friends told about the shape of pizza?
II. Chinu told that the shape of slice of pizza is triangle but Seema told her that she was wrong. Do you think Seema was right?

III. To add fun to the party Seema tried cutting pizza slices in a different way as shown below.

The host would eat part A and other would eat B,C,D and E

a) what was the shape of part which the host ate?

b) What was the shape of other parts (B, C, D, E)?

CIRCLES AND ITS PARTS

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2. The **discus throw** also known as disc throw, is a track and field event in which an athlete throws a heavy disc—called a discus—in an attempt to mark a farther distance than their competitors

   Rahul is a discusthrower and is representing India in Summer Olympics. For practice he has to make field in a ground. The field was made as shown in the diagram.
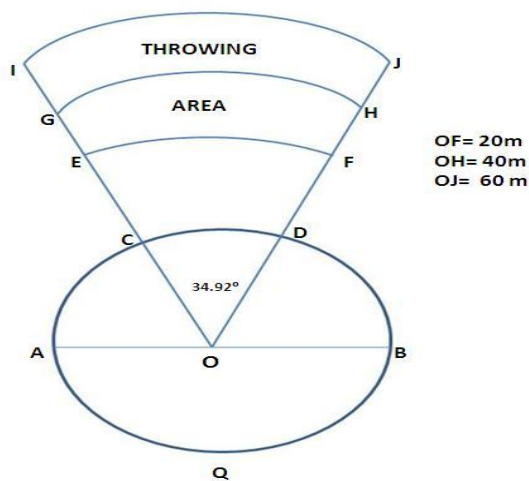

What is the central angle of throwing area?

I. What is the central angle of throwing area?
II. What is the shape of throwing area?
III. What is the angle of major sector DQC?
IV. If diameter of circle is 2.5m what do you say about the measure of AB and OD.

CLASS -7
Supplementary Resource Material

CIRCLES AND ITS PARTS

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3. Avni was watching a TV program with her family after some time following figure appeared on the screen.Her father explained her that it was a pie chart showing favorite pet animals of the people in their City
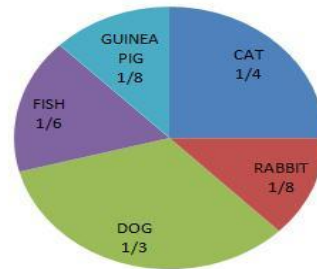

She can relate it to a circle the various lines as radius of the circle.

a) Help her identity the shape found by two radii and an arc of the circle.
b) How is a sector different from a triangle?
c) How many sectors are there in the figure?
d) Which animal amongst the four is most liked by the people?
e) What is the total central angle of a circle?
f) Find the central angle of each part?

CLASS -7
Supplementary Resource Material

CIRCLES AND ITS PARTS

4. A circle is a closed figure. It's a collection of points in a plane which are equidistant from a fixed point called center of the circle.

Fig 2(i)

Fig 2(ii)

Red
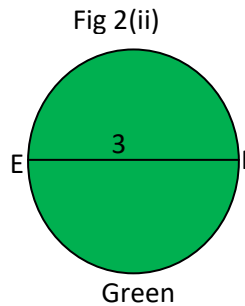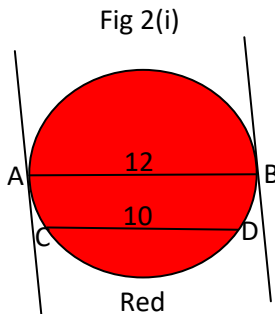
Green

Here green circle has a diameter 3cm which is the longest distance from one to another end of green circle. Chord is a line segment with in a circle that touches two points on circle whereas tangent to a circle is a line perpendicular to the radius that touches only one point on the circle as shown in red circle at A and B. A and B are points of contact.

ANSWER THE FOLLOWING

I. How many tangents can be drawn to the green circle parallel to a chord EF

a) 3   b) 0   c) infinite   d)2

II. Is CD = 10 cm the longest distance from one end to another end in red circle

III. choose a real-life example of tangent to circle from given options

a) Walking on a flat road   b) basketball placed on table

c) A flat road tire of a car.

IV. If sectors with equal angles are cut from each circle and two cones are made out of them, each cone will have heights

a) Equal to one another

b) Red cone has greater height

c) Green cone has greater height

d) None of above

V. Rima and Tina are standing at points A and B of red circle. What is the distance between two parallel tangents at A and B?

a) 8cm   b)12 cm   c) 6cm   d)10cm

CLASS -7
Supplementary Resource Material

CIRCLES AND ITS PARTS

5. Every time we had the school annual function we were taken to another city by authorities and for this lot of time was wasted. We requested our school management for an arrangement near our school. So, they decided to construct an auditorium in the town. It is in circular shape as shown in figure with diameter 70 m

Fig 4
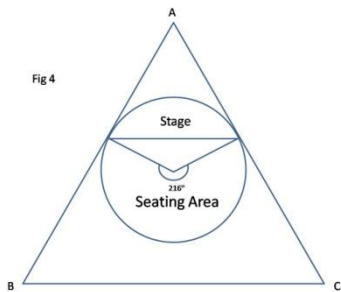
ANSWER THE FOLLOWING

i)What is the shape of stage allotted?

ii) Which boundary is tangent to the circular region?

iii)what is the circumference of circular auditorium?

iv) What is the shape of seating area allotted?

CIRCLES AND ITS PARTS

6. Amaira is a nature lover and a pet lover. She bought a land in Solan. The land is 30 m long and 20 m wide in which she has grown palms in 2 circular region of diameter 5.6 m, roses in a rectangular patch of dimensions 10m x 6 m. She used square piece of land of side 8m for keeping pets.

    i.   Find the ratio of the areas kept for pets to that of rose plants.

    ii.   Amaira wants to put a fence around circular region and square region. Find the cost of wire needed for it if the cost of wire is
Rs. 50 per meter.

    iii.   Find the area of the left over land after taking out the area used in circular, square and rectangular regions.

    iv.   Amaira and her friends decided to play a game. Amaira's friend Riya took 3 rounds of rectangular region and Amaira took 4 rounds of one circular region and find out that Riya took more time. Who cover more distance among the two friends and by how much?

CLASS 7

ANSWER KEY

CHAPTER 1 –INTEGERS

1. (a) No, 6   (b) 22

2. 350m North

3. 1.25 km.

4. Balance to be paid after 3 months= 3000

   Interest for three months = 300

   Total amount to be paid = 3000 + 300 = Rs. 3300

5. 2740 m above sea level.

6. first jump+ 5 STEPS

 2ND JUMP 5 -2= 3 steps

 3rd jump 3+5=8

 4th jump 8-2=6

 5th jump 6+5=11

 5 jumps three of them have taken 3 jumps.

7. John will score more

8. i) 40 points   ii) 115 points needed

9. i) 360 Litre.   ii) 50 hours

   10. I) Either 1 or 2.

    ii) P (Rohit) =21/36

       P (Vicky) = 10/36

  Rohit's probability is more than Vicky.

11. a) 17m

12. 26˚ F

13. Rs. 225

CHAPTER 2 – FRACTION AND DECIMALS

1. (i)– d   (ii)- a   (iii)- c

2. a) (i) 1 : 2   (ii) 5 : 7

    b) Ratio of yellow coloured sticker in group A is 1 : 2

    Ratio of yellow coloured sticker in group B is 1 : 3

    Ratio of yellow coloured sticker in group C is3 : 4

            Ascending order is 1:3 < 1:2 < 3:4

3. i) b
    ii) c

            iii) d

4. d
5. a
6. i) 3 days
    ii) a
7. i) aliya and shelly
    ii) b
    iii)c

CHAPTER 3 - DATA HANDLING

1. (C) Katharine
2. 17/18
3. 5/51
4. c
5. i.   92,29,83,38,74,47,56,65
   ii.   1/4
6. 19/66
7. i.   7/20
   ii.   23/40

CHAPTER 4 –SIMPLE EQUATIONS

1. i)Time left for the T.V. is M minutes

   ii)After 5 minutes time left for the T.V. show is M-5 Minutes

2. Money at the end of the day will be 500 +10 X N + 5 X   (n + 1)
3. Ticket numbers will be 33 and 35

4. All three of them wrote correct statement.
5. B
6. The total number of bananas was 500 bananas, 300 in lot A and 200 in lot B.
7. There are 100 students in section A and 80 students in section B.

CHAPTER 5 –LINES AND ANGLES

1. ∠ 1 = 100°

2. ∠ x = 35° (alternative interior angles) ∠ y = 145°

3. L ll m

   P ll q

   Therefore ∠ 1 = 180 ° - 30° (Linear Pair)

   ∠ 1 = 150°

   ∠ 1= ∠ c = 150° (corresponding angles)

   ∠ 1 = ∠ b = 150° (corresponding angles)

   ∠ 2= ∠ b = 150° (alternate angles)

   Therefore ∠ a = 180° - 150°=30 (Linear Pair)

4. ∠ a =120° ∠ b =120° (angles on the same side of transversal)

   ∠ b =120° (angles on the same side of transversal)

   ∠ c + 50 = 180°

5. a) Player 4

   b) Player 4

   c) Measure with protector and then answer

CHAPTER 6 -TRIANGLE AND ITS PROPERTIES

1. H = 37 m
2. He should hit the ball at a height of 2.7 m
3. a) x =23cm   b) X= 32
4. length of cut edge is equal to √100   = 10 cm
5. So, they should buy which is 25 feet long. the ladder
6.

   a) Since Ritu shadow is longer, therefore Ritu is taller as △ ABC is similar

      to △ PQR

   b) Ritu's height in inches= 5 x 12 + 4 = 64 inches

   ➤ $\dfrac{AB}{PQ} = \dfrac{BC}{QR}$

   ➤ $= \dfrac{X}{64} = \dfrac{96}{102}$

   ➤ $= X = \dfrac{96 \times 64}{102}$

   ➤ $= 60.24$ INCHES

   Meena's height = 5 feet ¼ inch tall

CHAPTER 7- CONGRUENCE OF TRIANGLES

1. I) Yes by SSS   II) by SAS
2. I) yes by ASA

   II) not sure ,till we know one of the sides because there is no rule of AAA
3. Yes by SAS
4. Yes by SAS
5. Case 1- nothing as median of equilateral triangle divides it into 2 congruent triangles.

   Case 2 - RHS congruency.
6. Sides
7. Yes
8. c

CHAPTER 8

COMPARING QUANTITIES

1. A

2. C

3. A

4. C

5. D

6. D

7. B

8. A

9. C

10. A

11. Rs. 2142

12. Rs. 25300

13. Rs 72

CHAPTER-9

RATIONAL NUMBER

1. Both got the same number
2. Ritu is at a distance 4/5 km from A towards west.
3. 5/2kg
4. 15/8m
5. I.   Rohit Sharma : 648/3035

   II.   D

   III.   a

   IV.   19/291

   V.   David warner & Kane Williamson fraction is 10/48

6. I.   Distance between Himgaon & Rawalpur is less than that between Sonapur & Ramgarh.

   II. $117\frac{2}{3}$ km

   III. b

   IV. a

CHAPTER-11

PERIMETER AND AREA

1.
i.   He took more time to come back
ii.   150m
iii.   Area of path = 316m^2

CHAPTER-12

ALGEBRAIC EXPRESSION

1. X+Y=15, 200 X+400Y=4800

2. Rs. 4500

EXPONENTS AND POWERS

1. X = 16
2. 6^{15}
3. No. of heads on 3rd day = 2^3=8
   No. of heads on 10th day = 2^{10}
4. $3^5/5^5$ not equal 1/3
5. Yes
6. 7.632 x 10^{25}kg
7. i.   b
   ii. 2^{14} presents.
   iii. 8^2
   iv. 1500%
8. Ankur

SYMMETRY

1. i.   3
ii. 120^0
iii.   Rotational symmetry = 6
         Angle of Rotational symmetry = 60^0

2. i.   Symmetrical
   ii.   One line of Symmetry

3. i.   B,C,D,E,H,I,K,O,U,X
   ii.   A,H,I,M,O,T,U,V,W,X,Y
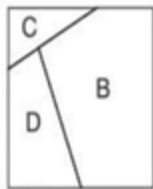   iii.   H,I,O,X

CHAPTER-15
VISUALISING SOLID SHAPES

1. iv
2. iii
3. a
4. 10
5. 18
6. B
7. 480
8. a.   Book,Shoe box, rod etc
   b.   Circular wall clock, plate, ball

   9. 1600

   10. a

   11.   i, c

          ii. b

          iii. b

SUPLEMENTARY RESOURCE MATERIAL

LOGICAL REASONING

1. D
2. D
3. B
4. D
5. B
6. B
7. 14
8. Class B
9. 1. Minimum = 150 and maximum = 225

   2. Bread 130,cheese 45, toppings 25

10. 3

11. They will never appear together
12. C B D

13. 3
14. b

SUPLEMENTARY RESOURCE MATERIAL

CIRCLE AND ITS PARTS

1. I.   Circle
   II.   Sector
   III.   a) Rectangle b) Segments
2. I. 34.92^0
   II.   Sector

   III.   325.08

   IV.   AB=2.5m, OD = 1.25m

3. a)   Sector
   b)   Sector has 2 radii and an arc where as triangle is a closed figure
   made up of three line segments.
   c)   5
   d)   dog
   e) 360^0
   f)   Cat = 90^0 Fish= 60^0 Rabbit= 45^0 Guinea pig= 45^0 Dog= 120^0
4. I.   d
   II.   No
   III.   option b or c full marks and half marks if child gives only one of the
   two options
   IV.   b
   V.   b
5. I.   Segment
   II.   AB,AC
   III.   220m
   IV.   A major segment
6. I.   16:15
   II.   Rs. 3360
   III.   426.72 m^2

IV.   Riya covered more distance than amaira by 25.6m

TURN YOUR OBSTACLES

INTO YOUR WAY TOWARDS SUCCESS
-ERIC WORRE