KENDRIYA VIDYALAYA, KISHTWAR ACTIVITY-8.7 MATHEMATICS CLASS-8

On a squared paper, draw five squares of different sides. Write the following information in a tabular form.

	Square- 1	Square-2	Square-3	Square-4	Square-5
Length of a side (L)					
Perimeter(P)					
$\frac{L}{P}$					
Area(A)					
$\frac{L}{P}$					

Find whether the length of a side is in the direct proportion to:

(a) the perimeter of a square

(b) the area of the square

KENDRIYA VIDYALAYA, KISHTWAR ACTIVITY-8.8 MATHEMATIC CLASS-8

OBJECTIVE

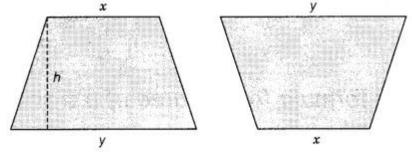
To find the formula for the area of a trapezium experimentally

Materials Required

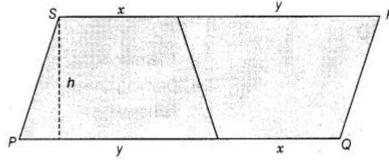
- 1. Cardboard
- 2. Geometry box
- 3. Drawing sheets
- 4. Scissors
- 5. Adhesive

Procedure

1. Cut out two congruent trapeziums of parallel sides x and y units with h units altitude.(see Fig.)



2. Now, place both trapeziums like the figure given below and paste on the page.



Demonstration

- 1. Now you can see that figure formed by placing, both trapeziums together is a parallelogram.
- 2. Base of parallelogram = (x + y) units and corresponding altitude = h units

3. Now, Area of trapezium = ½ (Area of parallelogram) = ½ (Base of parallelogram x Corresponding altitude) = ½[(x + y) x h] Hence, area of trapezium = ½ x (x + y) x h . = ½ (Sum of parallel sides) x Altitude

Here, area is in square units.

Observation

Result

We have verified experimentally the formula for the area of a trapezium.

<u>KENDRIYA VIDYALAYA, KISHTWAR</u> <u>ACTIVITY-8</u> <u>MATHEMATICS</u> CLASS-9

OBJECTIVE: To verify the midpoint theorem.

Materials Required

1. Two sheets of coloured paper

2. A geometry box

Theory

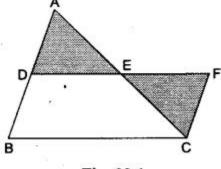
Midpoint theorem: The line segment joining the midpoints of any two sides of a triangle is parallel to the third side.

Procedure

Step 1: .

Cut a $\triangle ABC$ on from sheet and paste on the page.

Step 2: Mark the midpoints D and E of the sides AB and AC respectively (the midpoints of the sides can be obtained by the method of paper folding). Join D and E. Blacken \triangle ADE with the marker pen. **Step 3:** Cut another triangle CEE from the other sheet of paper so that \triangle CEE is congruent to \triangle ADR Blacken \triangle CEE with the marker pen. Place \triangle CEF on the previous paper as shown in Figure 22.1.





Observations

1.

- 1. Since $\triangle CEF$ is congruent to $\triangle ADE$, therefore $DE = \pounds F$.
- 2. Measure DE and BC. We find that $DE = \frac{1}{2} BC$.
- 3. From (i) and (ii), we derive that DF = BC.

2.

- 1. Since $\triangle CEF$ is congruent to $\triangle ADE$, therefore AD = FC.
- 2. Since D is the midpoint of AB, we have AD = DB.
- 3. From (i) and (ii), we get FC = DB.
- 3. From the above observations, it is clear that DFCB is a parallelogram. Hence, DE \parallel BC.

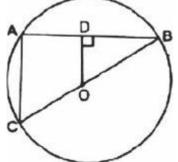
Result

The midpoint theorem is verified.

ASSIGNMENT

CLASS-9

1. In the figure, OD is perpendicular to the chord AB of a circle with centre O. If BC is a diameter, show that AC || OD and AC = 2OD.



Hint: \therefore OD \perp AB there

therefore; D is the mid-point of AB.

2. Column-II gives value of k for polynomials given in Column-I when it is completely divisible by x-1.

Column-I		Column-II	
(P)	$kx^2 - 3x - 2k$	(1)	0
(Q)	$x^2 - x + k$	(2)	-3
(R)	$2x^2 + kx + 3$	(3)	$(\sqrt{2} - 1)/3$
(S)	$3kx^2 - \sqrt{2} x + 1$	(4)	-5

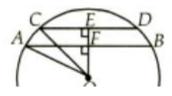
	Р	Q	R	S
(a)	2	1	4	3
(b)	4	1	3	2
(c)	1	4	3	2
(d)	3	2	4	1

3.

Assertion: If $f(x) = 3x^7 - 4x^6 + x + 9$ is a polynomial, then its degree is 7.

Reason : Degree of a polynomial is the highest power of the variable in it.

In the given figure, $OE \perp CD$, $OF \perp AB$, $AB \parallel CD$, AB = 48 cm, CD = 20 cm, radius OA = 26 cm. The length of EF is



. Match the following :

(Column-I	Col	umn-II
(P)	The radius of circle is 8 cm and the length of one of its chords is 12 cm. The distance of the chord from the centre is	(1)	23 cm
(Q)	Two parallel chords of lengths 30 cm and 16 cm are drawn on the opposite sides of the centre of a circle of radius 17 cm. The distance between the chords is	(2)	5.196 cm
(R)	The length of a chord which is at a distance of 4 cm from the centre of the circle of radius 6 cm is	(3)	5.291 cm
(S)	An equilateral triangle of side 9 cm is inscribed in a circle. The radius of the circle is	(4)	8.94 cm

	Р	Q	R	S
(a)	3	1	4	2
(b)	3	4	1	2 Ac
(c)	1	2	3	4 ^{Go}
(d)	1	3	2	4

5.

4.

- Assertion : The length of a chord which is at a distance of 5 cm from the centre of a circle of radius 10 cm is 17.32 cm. Reason : The perpendicular from the centre of a circle to a chord bisects the chord
- 7. Assertion : In an isosceles triangles ABC with AB AC = , a circle is passing through B and C intersects the sides AB and AC at D and E respectively. Then DE BC || . Reason : Exterior angle of a cyclic quadrilateral is equal to interior opposite angle of that quadrilateral.
- 8. A hemispherical tank of radius 3 cm is full of milk. It is connected to a pipe, through which liquid is emptied at the 1/7 litre per second. The time taken to empty the tank completely?
- 9. A small indoor greenhouse is made entirely of glass panes held together with tape. It is 30 cm long, 25 cm wide and 25 cm high. How much of tape is needed for all the 12 edges?
- 10. A rectangular sheet of metal, x cm by y cm has a square of size z cm cut from each corner. The sheet is then bent to form a tray of depth z cm. The volume of the tray is _____.
- 11. The volumes of two cylinders are as a b: and their heights are as c d: . Find the ratio of their diameters.
- 12. The volume of the largest circular cone that can be cut from a cube whose edge is 8 cm, is___.
- 13. Assertion : In TABC , E and F are the midpoints of AC and AB respectively. The altitude AP at BC intersects FE at Q. Then, AQ =QP .
 Reason : Q is the midpoint of AP.
- 14.
 - . Match the following

	Column-I		Column-II
(P)	In a parallelogram <i>ABCD</i> , if $\angle D = 115^{\circ}$, then the measure of $\angle A$ is	(1)	68°
(Q)	PQRS is a square such that PR and SQ intersect at O. The measure of $\angle POQ$ is	(2)	58°
(R)	The diagonals of a rectangle $ABCD$ meet at O . If $\angle BOC = 44^{\circ}$, then the measure of $\angle OAD$ is	(3)	90°
(S)	If $ABCD$ is a rectangle with $\angle BAC = 32^{\circ}$, then the measure of $\angle DBC$ is	(4)	65°

Ans : P-4, Q-3, R-1, S-2

15. Assertion : A parallelogram consists of two congruent triangles. Reason : Diagonal of a parallelogram divides it into two congruent triangles.

ASSIGNMENT

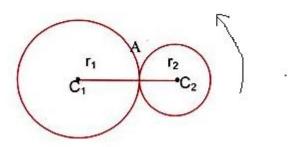
- 1. Simplify the following expressions:
 - (i) (x + y + z)(x + y z)
 - (ii) $x^{2}(x 3y^{2}) xy(y^{2} 2xy) x(y^{3} 5x^{2})$
 - (iii) $2x^2(x+2) 3x(x^2-3) 5x(x+5)$
- 2. From a circular sheet of radius 4 cm, a circle of radius 3 cm is cut out. Calculate the area of the remaining sheet after the smaller circle is removed.
- 3. A flooring tile is in the shape of a parallelogram with 24 cm base and the corresponding 10 cm height. Calculate the number of tiles required to cover a floor of area 1080 m² (If required you can split the tiles in whatever way you want to fill up the corners).
- 4. Two cubes are joined end to end. Now, calculate the volume of the resulting cuboid, if each side of the cubes is 6 cm.
- 5. How many bricks each 25 cm by 15 cm by 8 cm, are required for a wall 32 m long, 3 m high and 40 cm thick?
- 6. Find the area of a rhombus whose one side measures 5 cm and one diagonal as 8 cm.
- 7. Evaluate: (-4)-3
- 8. Simplify: (3⁻⁷÷ 3⁻⁹) × 3⁻⁴
- 9. Find the value of $(3^7 + 4^{-3} + 5^3)^0$
- 10. Evaluate: [{1/2}-1+{1/3}-1]-1
- 11. Express 3186000000 in standard form.
- 12. Find x so that $(-5)^{x+1} \times (-5)^5 = (-5)^7$
- 13. Solve the following: $(81)^{-4} \div (729)^{2-x} = 9^{4x}$
- 14. If 21y5 is a multiple of 9, where y is a digit, what is the value of y?
- 15. 3 lambs finish eating turnips in 8 days. How many days will it take for 2 lambs to finish them?

<u>CCT</u>

(MATHEMATICAL LITERACY)

HOW MANY ROUNDS?

> A circle of radius r_2 is moved along the circumference of a fixed radius r_1 as shown in the figure given below. The radius of fixed circle is double the radius moving circle. Answer the following questions:



- 1. Write the relationship between r_1 and r_2 .
- 2. How much distance is travelled in completing one revolution along a circle?
- 3. What will happen if r₂ is doubled?
- 4. Name the points which remain equidistant from each other throughout the activity.
- 5. If the circles given above represent two circular gears, then in how many ways can we connect them with single rod such that this rod touch each of them externally at one point only.

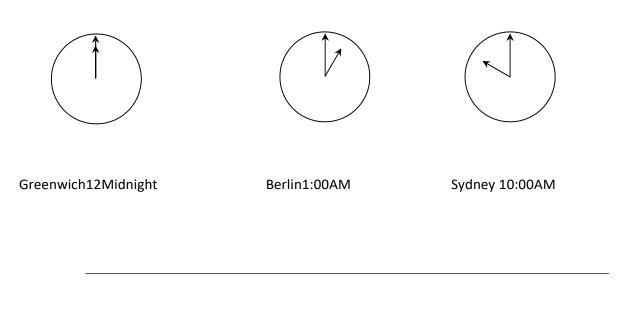
Answer:

- 1. $r_1 = 2r_2$.
- 2. Circumference = $2\pi r$
- 3. Moving circle will have to complete two revolutions.
- 4. Centre of two circles.
- 5. Three (Common Tangents)

INTERNET RELAYCHAT

Mark (from Sydney, Australia) and Hans (from Berlin, Germany) often communicate with each other using "chat" on the Internet. They have to log on to the Internet at the same time to be able to chat.

To find a suitable time to chat, Mark looked up a chart of world times and found the following:



Question 1: INTERNETRELAYCHAT

At 7:00 PM in Sydney, what time is it in Berlin?

Answer:

Question 2: INTERNETRELAYCHAT

Mark and Hans are not able to chat between 9:00 AM and 4:30 PM their local time, as they have to go to school. Also, from 11:00 PM till 7:00 AM their local time they won't be able to chat because they will be sleeping.

When would be a good time for Mark and Hans to chat? Write the local times in the table.

Place	Time
Sydney	
Berlin	

Answers:

Any time or interval of time satisfying the 9 hours time difference and taken from one of these intervals:

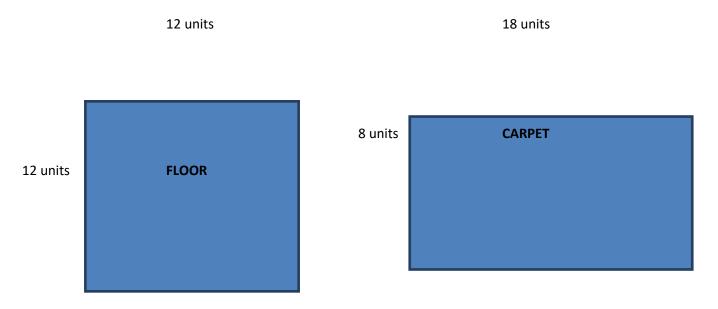
Sydney: 4:30 PM - 6:00 PM; Berlin: 7:30 AM - 9:00 AM OR

Sydney: 7:00 AM – 8:00 AM; Berlin: 10:00 PM – 11:00 PM

Sydney 17:00, Berlin 8:00.

RECTANGLE AND SQUARE

We have a floor and a carpet of the dimensions as given below.



We want to cover the whole floor with the carpet.

Try to cover the floor with the carpet.

What do you find? Is it possible? Let us discuss the following.

Questions:

1. What are the shapes of floor and carpet?

2. Find the perimeters of floor and carpet.

3. Whose area is greater floor or carpet? How much area of floor can be covered with this carpet?

4.Can we cover the floor with carpet?

5. How can we do it and find the minimum number of pieces in which carpet should be cut to cover the floor?

6. Find the perimeter of each piece of carpet?

7. If we want to join the two pieces using a tape of width 1 unit find the length of tape required.

8. If price of tape is Rs 5 per units. Find the money required to buy the tape.

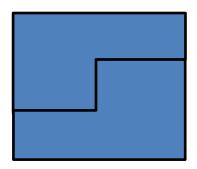
Answers:

1.Floor: Square shaped	Carpet: Rectangular shape	
2.Perimeter of Floor: 48 units	Perimeter of Carpet:52 units	
3.Area of Floor: 144 sq units	Area of carpet: 144 sq units	Areas of both are equal.

4.Yes

5.To cover the floor with carpet as there areas are same this can be done by making piece of carpet. Now to over the floor we have to cut and join it so that length of carpet should be decrease from 18 units to 12 units and breadth should increase from 8 units to 12 units. So first mark the carpet along the length in three equal parts each of length 6 units and along the breadth in two parts each of 4 units. Now cut the carpet as per the following diagram.

Put the two pieces adjacent to each other as per following diagram.



Perimeter of each pieces of carpet=12+8+6+4+6+4=40 units

Length of tape required to join two carpets=6+4+6=16 units

Money required to buy the tape=16xRs 5= Rs 80

Other Activity based on above:

If we have to cover the above floor with a rectangular carpet of length 16 units and breadth 9 units. Think and try is it possible?

<u>CCT</u> MATHEMATICAL LITERACY JUICY WATERMELONS

1. Cubic watermelons are watermelons grown into the shape of a cube. This is generally intended for space efficiency in small refrigerators. The practice of growing cube watermelons is popular in Japan. The melons are grown in boxes and assume the shape of the container. Normal watermelons are round in nature.



QUESTION 1.1:

If the side of a cubical watermelon is equal to the diameter of a spherical watermelon and they are to be stacked in boxes, then which one would occupy more space than the other?

QUESTION 1.2:

If 90% of the watermelons are full of water, then how much water(juice) will you get from the cubic watermelon of side 15cm?

Answers:

- 1. Both would occupy same space. When the spherical melons are stacked the gaps in between is wasted and the space is equivalent to the space occupied by a cubic melon of side equal to its diameter.
- 2. Volume of the cubic watermelon = $(side)^3$

= 15³ = 3375 cu.cm

Volume of water in the watermelon = 90% of 3375

= 3037.5 cu.cm

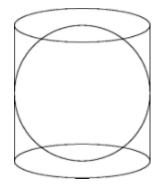
SPHERE AND CYLINDER

On the Sphere and Cylinder is a work that was published by Archimedes in two volumes c. 225 BCE. It most notably details how to find the surface area of a sphere and the volume of the contained ball and the analogous values for a cylinder, and was the first to do so.

He also observed that if a sphere is sliced in to equal parts, then the total surface area of each part will same.

Archimedes was particularly proud of this latter result, and so he asked for a sketch of a sphere inscribed in a cylinder to be inscribed on his grave.

Marcellus saw to it that Archimedes was given a burial in accordance with his wishes, including a monument featuring a stone sphere and cylinder.



1. Observe the above figure: A sphere of radius "r "is enclosed by a cylinder.

a) What is the Volume of the sphere as compared to the volume of the cylinder?

b) Find the ratio of the Total Surface Area of the sphere to that of the cylinder.

1. a) $\frac{Volume \ of \ sphere}{Volume \ of \ cylinder} = \frac{4/3}{\pi r^2 h}$	b) $\frac{TSA \text{ of sphere}}{TSA \text{ of cylinder}} = \frac{4 \pi r^2}{2\pi r(r+h)}$
Height of cylinder =2r	
	TSA of sphere 2
	$\overline{TSAof \ cylinder} = \overline{3}$
Volume of sphere 2	
Volume of cylinder 3	

SLICING AN ORANGE



2. Using the above knowledge answer the following.

An orange is sliced into six equal slices.

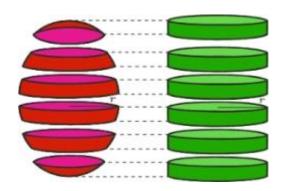
a) Find the volume of each slice.

b) Find the total surface area of each slice of orange.

c) The total surface area of each slice is $6\pi..$ Find the radius of the orange.

ANSWERS

2. a) To solve this imagine a cylinder enclosing a sphere:



Volume of each slice = $\frac{1}{6} \times \frac{2}{3}$ volume of cylinder enclosing the sphere $\frac{2}{9}\pi r^3$

b) TSA of each slice = $\frac{1}{6} \times \frac{2}{3} TSA$ of cylinder enclosing the sphere = $\frac{2}{3} \pi r^2$

c) Given, TSA of each slice = 6π

$$\frac{2}{3}\pi r^2 = 6\pi$$
$$r = 3$$

SCOUT CAMP

Kendriya Vidyalaya New Allahabad Cantt is going to organize a scout camp of national level from 30 July 2019 to 3 august 2019. The participants of 25 regions are coming. Every region scout team consists of 15 students and 2 escorts.



Question 1. How many people will be there on august 1?

Question 2. The Vidyalaya has a huge playground. For making region wise tent they given 40X40 square meter area in total.



What will be the maximum size of each tent if every tent shape will be square only?

Question 3. How much rope will be required to make fences of each tent?

Question 4: What is the area occupied per person?

Question 5. During a trekking activity of 6 km a student Ram will to go to Sangam and return back up to 12 noon. He estimates that he can go to the Sangam at 1.5km/h on average, and return at half that speed. These speeds take into account breaks and rest times. Using ram's estimated speeds, what is the latest time he can begin his walk so that he can return by 12 noon?

Question 6. Ram used step count software on his mobile while trekking to count his steps on his walk to Sangam. He found that he walked 13600 steps on return. Estimate average step length for his return walk. Give your answer in centimeters.

KENDRIYA VIDYALAYA DPS KISHTWAR HOLIDAY HOMEWORK

SUBJECT : ENGLISH CLASS: VII SYLLABUS COMPLETED:-

- Chapter 1 Chandni
- Chapter 2 Fire -friends and foe
- Chapter 3 The bear story
- Chapter 4 The dad and the cat and the tree.

HOME ACADEMICS TASK:

- All students have to complete the exercise (question answers) of each chapter in their fair homework copies.
- The written part should be done neatly in your handwriting in homework copy. Take help of your parents if necessary.
- READ , LEARN and REVISE all the chapters thoroughly.
- Holiday homework is a part of internal assessment so please do it carefully.
- •

POWERPOINT PRESENTATIONS:-

Topic:- Make PPT on the topic the main ways to put out fire and also role of fire brigade.

PROJECT:-

WHAT IS EDUCATION. WRITE CONTRIBUTION OF MAHATMA GANDHI AND RABINDRA NATH TAGORE IN THE FIELD OF EDUCATION.

PISA ASSIGNMENT:- (WILL BE PROVIDED IN A SEPARATE PDF)

- TO BE DONE IN A SEPARATE NOTEBOOK.
- WRITE ALL THE CHAPTERS QUESTIONS ANSWER NEATLY AND IN WELL PRESENTED WAY.

FOUR CHAPTERS: ENGLISH LITERACY .

CHAPTER: 1:- STRESS BUSTER

CHAPTER: 2:- ENVIRONMENTAL PROBLEM

CHAPTER: 3:- WAKE UP CALL FOR US

Activities:

Activity :1-GUESS WHAT?

Activity : 2-What fits best?

Activity :3- WHERE I GOES WRONG?

DO YOUR HOLIDAY HOMEWORK SINCERELY AS YOUR INTERNAL ASSESSMENTS DEPEND ON IT.

- FOLLOW THE GUIDELINES TO COMPLETE YOUR HOMEWORK.
- WORK HARD AND ENJOY YOUR VACATION.

STAY HOME...... A STAY SAFE.

SUBJECT TEACHER:-

NEHA KUMARI

KENDRIYA VIDYALAYA DPS KISHTWAR HOLIDAY HOMEWORK

SUBJECT : ENGLISH CLASS: IX SYLLABUS COMPLETED:-

- Chapter 1 The bond of love
- Chapter 2 The begger
- Chapter 3 Reach at the top
- Chapter 4 If I were you
- Chapter 5- On killing a tree

HOME ACADEMICS TASK:

- All students have to complete the exercise (question answers) of each chapter in their fair homework copies.
- The written part should be done neatly in your handwriting in homework copy. Take help of your parents if necessary.
- READ, LEARN and REVISE all the chapters thoroughly.
- Holiday homework is a part of internal assessment so please do it carefully.
- •

POWERPOINT PRESENTATIONS:-

Topic:- Make PPT on ' If I were you' and also add pictures in it

PROJECT:-

PISA ASSIGNMENT:- (WILL BE PROVIDED IN A SEPARATE PDF)

TO BE DONE IN A SEPARATE NOTEBOOK

• WRITE ALL THE CHAPTERS QUESTIONS ANSWER NEATLY AND IN WELL PRESENTED WAY.

FOUR CHAPTERS: ENGLISH LITERACY .

CHAPTER: 1:- ENVIRONMENTAL PROBLEM

CHAPTER 2:- FLY BY DAY, FLY BY NIGHT

CHAPTER 3:- HOWARD'S END.

ACTIVITIES

Activity :1- Imagine that you are Santosh Yadav, or Maria Sharapova. You have been invited to speak at an All India Girls' Athletic Meet, as chief guest. Prepare a short speech to motivate the girls to think and dream big and make an effort to fulfil

their dreams

Activity : 2- Write about Arunima Sinah and Captain Lakshmi Sehgal. How they reach to their goal.

Activity :3- Write about the preparedness of the community for a natural disaster.

DO YOUR HOLIDAY HOMEWORK SINCERELY AS YOUR INTERNAL ASSESSMENTS DEPEND ON IT.

- FOLLOW THE GUIDELINES TO COMPLETE YOUR HOMEWORK.
- WORK HARD AND ENJOY YOUR VACATION.

STAY HOME...... A STAY SAFE.

SUBJECT TEACHER:-

NEHA KUMARI



KENDRIYA VIDYALAYA, KISHTWAR HOLIDAY HOMEWORK (2021-22)

SUBJECT: MATHEMATICS CLASS: VIII

ACADEMICS TASK:

- Complete fair NOTEBOOK of mathematics(.CHAPTERS 8-13 AND 16 COMPLETED)
- The written part should be done in neatly in your handwriting.
- REVISE all the chapters thoroughly.
- Holiday homework is a part of internal assessment so please does it carefully.

CCT ASSIGNMENT:- (WILL BE PROVIDED IN A SEPARATE PDF)

- TO BE DONE IN A SEPARATE NOTEBOOK.
- WRITE ALL THE CHAPTERS QUESTIONS ANSWER NEATLY AND IN WELL PRESENTED WAY.

ACTIVITIES: (WILL BE PROVIDED IN A SEPARATE PDF)

• TO BE DONE IN FAIR NOTEBOOK

ASSIGNMENT: (WILL BE PROVIDED IN A SEPARATE PDF)

• TO BE DONE IN FAIR NOTEBOOK

Subject teacher: Ruchi(TGT-Mathematics)



KENDRIYA VIDYALAYA, KISHTWAR HOLIDAY HOMEWORK (2021-22)

SUBJECT: MATHEMATICS CLASS: IX

ACADEMICS TASK:

- Complete fair NOTEBOOK of mathematics(.TERM-2)
- The written part should be done in neatly in your handwriting.
- REVISE all the chapters thoroughly.
- Holiday homework is a part of internal assessment so please does it carefully.

CCT ASSIGNMENT:- (WILL BE PROVIDED IN A SEPARATE PDF)

- TO BE DONE IN A SEPARATE NOTEBOOK.
- WRITE ALL THE CHAPTERS QUESTIONS ANSWER NEATLY AND IN WELL PRESENTED WAY.

ACTIVITIES: (WILL BE PROVIDED IN A SEPARATE PDF)

• TO BE DONE IN FAIR NOTEBOOK

ASSIGNMENT: (WILL BE PROVIDED IN A SEPARATE PDF)

• TO BE DONE IN FAIR NOTEBOOK

Subject teacher: Ruchi(TGT-Mathematics)

KENDRIYA VIDYALAYA KISHTWAR MULTIDISCIPLINARY PROJECT

CLASS-VIII (2021-22) (TERM-2)

NAME OF THE TEST/ EXAM	MULTIDISCIPLINER Y PROJECT THEME	ENGLISH	HINDI	MATHEMATICS	SCIENCE	SOCIAL SCIENCE
TERM-2 PROJECT (15 marks)	TECHNOLOGY AND HUMAN	Essay on technology :bane or boon for human civilization (with pictures)	प्रोद्योगिकि विकास मे मानव एक संसाधन के रूप मे	Write in brief about Number of user of internet in India. Represent this data through bar graph of last 6 years.	Science and technology	 Crafts and industries(textiles, iron and steel industry) Role of these industries in the industrial revolution. How Britain came to be known as the "workshop of the world."

NOTE: PREPARE THIS PROJECT IN ONE FILE ONLY. IT IS MANDATORY FOR ALL STUDENTS.

FOR MORE GUIDANCE CONTACT YOUR SUBJECT TEACHER.