



DRONACHARYA
SR. SEC. SCHOOL MUBARIKPUR (JH)
AFFILIATED TO CBSE NEW DELHI, Aff No. 530945 |

Summer Holidays Homework

Class: - IX (Active)

Dear Students,

As the summer sun rises higher and the days stretch longer, it's time to pause, reflect, and recharge. The months of May and June bring with them not just warmth, but also the perfect opportunity to reconnect—with ourselves, with our families, and with the world around us.

Let us remember: "A mind stretched by new experiences can never go back to its old dimensions." This summer, let curiosity lead you, compassion guide you, and creativity energize you.

As part of the Summer Holiday Engagement 2025, we encourage you to stay indoors during peak hours, remain hydrated, and take thoughtful care of the ecology and environment around you. Even small steps—like reducing plastic use, saving electricity, and caring for plants—can bring meaningful change.

This year's holiday homework is designed to nurture Social, Emotional, and Experiential Learning. Whether you're experimenting in the kitchen, helping out at home, writing in your journal, or diving into a book—know that each activity contributes to your growth.

Let this summer be more than just a break. Let it be a season of purposeful rest, joyful discovery, and mindful action.

I believe in your potential to make a difference and look forward to seeing your spirit shine through in every page of your work.

Stay safe, stay curious, and above all—stay kind.

Warm wishes,

Class Teacher

GENERAL INSTRUCTIONS

- Complete your homework in the given time period.
- Make a separate single notebook for all subjects.

English

Reading and Writing

1. Story Writing on any one of the following: (120-150 words each)

Prompts: (i) You answer the door-bell only to find an intricate envelope on the ground – an invitation....

(ii) They didn't mean to, but in an attempt to build a time travelling machine, they discovered an alternate universe, and were accidentally trapped there. They....

2. Creativity and Vocabulary

1. Poem Composition

Compose three 12-line poems using the given lines:

a. Stars above, with light divine,

Through the forest, let's entwine.

b. Moon moon, come and shine,

I have finished my dinner fine.

c. Raindrops fall on leaves of green,...

3. Vocabulary Building

- Create a list of 20 words starting with 'B' and provide two antonyms for each.

- Compile a list of 10 words starting with 'P' and provide one synonym for each.

4. Creative Writing:

- Write a short story (200-250 words) using the following clues and give it a suitable title:

- Going to Mumbai by train for a friend's wedding.... Got stuck in a traffic jam..... Reached the railway station late..... Boarded the wrong train..... Realized after two hours... Now you

5. Literary Analysis

1. Write a brief Summary of following lessons in 150-200 words:

A The Lost Child

B The Fun They Had

2. Write a brief Summary of following poems in your own words (120-150 words):

1. The Road Not Taken

2. Wind

3. Rain on the Roof

3. Write the character sketch of the following in 120-150 words :

i) Evelyn Glennie

4. Review Syllabus

Review all the syllabus covered so far. Make sure you understand key concepts and learn all questions related to each topic.

5. Speaking

1. Speech Preparation

- Prepare a 1-minute speech on one of the following topics:
- The importance of reading books
- How to stay healthy during the summer

Practice your speech and be ready to present it in class.

6. Listening

1. Podcasts

- Listen to at least one episode from any educational podcast series. Suggested options:
 - [Brains On! Universe](<https://www.brainson.org/episodes>)
 - [But Why: A Podcast for Curious Kids](<https://www.vpr.org/podcast/but-why-a-podcast-for-curious-kids>)
- Write a summary (100-150 words) of the episode, including what you found most interesting.

7. Audio Stories

- Listen to an audio story from an online platform (e.g., Storynory, Audible).
- Write a brief review (100-150 words) of the story, discussing the narration and how it enhanced your understanding of the story.

	- [Storynory](https://www.storynory.com/) - [Audible](https://www.audible.com/) Note: - Maintain a separate notebook for your holiday homework. - Ensure that your work is neat and well-organized. - Be prepared to discuss with your classmates when school reopens.
Hindi	1-पत्र-लेखन- औपचारिक- अनौपचारिक विषय- (क)- परिवहन निगम को अपने गांव तक बस सुविधा आरंभ करवाने के लिए एक प्रार्थना पत्र लिखिए। (ख) अपने क्षेत्र में पेड़ पौधों की अनियंत्रित कटाई को रोकने के लिए जिलाधिकारी को पत्र लिखिए। (ग) भूमिगत वाहन खड़े करने की व्यवस्था एवं उसके लाभों से अवगत कराते हुए "नवभारत टाइम्स" के संपादक को पत्र लिखिए। (घ) अपने विद्यालय में छात्र-छात्राओं के लिए उत्तम पेय जल व्यवस्था के संबंध में कुछ सुझावों का उल्लेख करते हुए अपने प्रधानाचार्य महोदय को पत्र लिखिए। (ङ) शुल्क माफी हेतु अपने विद्यालय के प्रधानाचार्य महोदय को पत्र लिखिए। (च) फैशन में समय और धन का अपव्यय करने वाली छोटी बहन को बड़ी बहन की ओर से प्रेरणादायक पत्र लिखिए। (छ) खोई हुई वस्तु लौटाने के लिए किसी अपरिचित को पत्र लिखकर आभार व्यक्त कीजिए। (ज) वाद विवाद प्रतियोगिता में प्रथम आने पर अपने मित्र को बधाई पत्र लिखिए। (झ) परीक्षा में असफल हुए मित्र को पुनः अध्ययन के लिए प्रेरित करते हुए पत्र लिखिए। (ञ) आप एक ट्रेकिंग कैंप में जाना चाहते हैं पर आपके पिताजी ऐसा नहीं चाहते उन्हें ऐसे कैंपों की उपयोगिता समझते हुए पत्र लिखिए। 2-संवाद- लेखन- विषय- (क) किसी शिक्षक की प्रशंसा करते हुए दो छात्रों के मध्य हुए वार्तालाप को संवाद रूप में लिखिए (ख) बहुत दिनों के बाद अचानक मिले दो मित्रों के मध्य हुए संवाद को लिखिए। (ग) पानी की बर्बादी रोकने के विषय में मालिक और नौकर के मध्य हुए संवाद को लिखिए। (घ) बढ़ते हुए अपराधों पर चिंता व्यक्त करते हुए दो व्यक्तियों की परस्पर बातचीत को संवाद के रूप में लिखिए। (ङ) नौवीं कक्षा में प्रवेश हेतु विषय चयन के संबंध में दो विद्यार्थियों के मध्य हुए संवाद को लिखिए। (च) समय के महत्व के विषय में पिता पुत्र के मध्य हुए वार्तालाप को संवाद के रूप में लिखिए। (छ) महिलाओं की सुरक्षा विषय पर दो व्यक्तियों के मध्य होने वाले वार्तालाप को संवाद के रूप में लिखिए। (ज) व्यायाम एवं खेलकूद की महत्ता पर शिक्षक और विद्यार्थियों के मध्य वार्तालाप को संवाद रूप में प्रस्तुत कीजिए। (झ) निरंतर बढ़ती जनसंख्या पर चिंता व्यक्त करते हुए दो व्यक्तियों के मध्य होने वाले वार्तालाप को संवाद रूप में लिखिए। (ञ) विद्यालय से घर आए एक बच्चे और उसकी मां के मध्य होने वाले वार्तालाप को संवाद रूप में लिखिए। 3-अनुच्छेद- लेखन-10 विषय- क- जीवन में खेलकूद का महत्व ख- आत्मविश्वास ग- बढ़ता तनाव एक समस्या

घ- चरित्र निर्माण के बिना शिक्षा अधूरी
 ङ- बाल श्रमिक समस्या
 च- समय अमूल्य धन है
 छ- नशा और आज का युवा
 ज- बढ़ती जनसंख्या
 झ- संगठन में ही शक्ति है
 ञ- इंटरनेट
 4- लघु कथा-लेखन
 (क)- मिट्टी का मोल
 (ख)- सच्ची मित्रता
 (ग)- हार-जीत(घ)- परोपकार
 (ङ)- एकता में बाल है
 5- परियोजना कार्य-
 विषय-समास

Physics

Prepare handwritten notes explaining: - Distance vs Displacement, Speed, Velocity & Acceleration, Uniform and Non-uniform motion, Graphical representation of motion (distance-time and velocity-time graphs), Use diagrams wherever necessary and revise complete chapter.

1. Observe any two vehicles in your locality (bike, car, bus, etc.). Record their distance covered in 10 seconds using your watch and steps. Calculate their approximate speed. Represent this using a distance-time graph on graph paper.
2. Make a collage using magazine cutouts or drawings showing different types of motion (linear, circular, oscillatory, random).
3. **Short Essay (150 words) Topic:** "How the concept of motion helps us in everyday life."
4. Create a set of 25 flashcards to revise key concepts from the chapter Motion.

Instructions to Create Flashcards: Material: Use small index cards or cut A4 sheets into 4 equal parts. Front Side: Write a question, term, or formula name. Back Side: Write the answer, explanation, or diagram.

Prepare a model on Motion with the help of cardboard and thermocol.

Solve the assignment shared as a separate attachment in HHW notebook.

Part A: Multiple Choice Questions (MCQs) – (10 Questions)

1. Which of the following is a vector quantity?
 - a) Speed
 - b) Distance
 - c) Velocity
 - d) Time
2. What does the slope of a distance-time graph represent?
 - a) Speed
 - b) Distance
 - c) Acceleration
 - d) Velocity
3. A body is said to be in uniform motion when:
 - a) It travels unequal distances in equal intervals of time
 - b) Its velocity changes continuously
 - c) It travels equal distances in equal intervals of time
 - d) It remains at rest
4. The SI unit of acceleration is:

- a) m/s
 - b) m/s^2
 - c) km/h
 - d) cm/s
5. The area under velocity-time graph represents:
- a) Speed
 - b) Acceleration
 - c) Displacement
 - d) Distance
6. If a car increases its speed from 10 m/s to 30 m/s in 5 seconds, its acceleration is:
- a) 2 m/s^2
 - b) 4 m/s^2
 - c) 5 m/s^2
 - d) 10 m/s^2
7. Which graph represents an object moving with constant velocity?
- a) Curved distance-time graph
 - b) Horizontal velocity-time graph
 - c) Straight line in distance-time graph
 - d) Curved velocity-time graph
8. Retardation is:
- a) Positive acceleration
 - b) Zero acceleration
 - c) Negative acceleration
 - d) Constant speed
9. A body moving along a circular path has:
- a) Constant speed
 - b) Constant velocity
 - c) Uniform motion
 - d) Uniform acceleration
10. If the velocity of an object is zero, then its acceleration:
- a) Must be zero
 - b) May or may not be zero
 - c) Is always positive
 - d) Is always negative

Part B: Numerical Questions – (10 Questions)

11. A train travels 120 km at a speed of 60 km/h. How much time does it take to complete the journey?
12. A car accelerates from rest to a speed of 20 m/s in 10 seconds. Calculate the acceleration.
13. An object moves with a uniform acceleration of 2 m/s^2 . If its initial velocity is 10 m/s, what will be its velocity after 5 seconds?
14. A body is moving with a velocity of 5 m/s. After 4 seconds, its velocity becomes 25 m/s. Find its acceleration and distance covered.
15. A car covers the first 100 m in 10 seconds and the next 100 m in 5 seconds. Calculate its average speed.
16. A stone is thrown vertically upward with a velocity of 20 m/s. Calculate the maximum height it will reach. (Take $g = 10 \text{ m/s}^2$)
17. An object is dropped from a height of 100 m. Calculate the time it will take to reach the ground. ($g = 10 \text{ m/s}^2$)
18. A car starts from rest and moves with a uniform acceleration of 3 m/s^2 . Find the distance covered in 6 seconds.

19. A vehicle moving with a speed of 25 m/s is stopped in 20 seconds. Calculate the retardation and the distance covered before coming to rest.
20. A body covers a distance of 50 m in 5 seconds. What is its speed in m/s and km/h?

Part C: Long Answer Type Questions – (10 Questions)

21. Define motion. Differentiate between scalar and vector quantities with examples.
22. Explain the difference between speed and velocity. Give examples.
23. What is acceleration? Explain the types of acceleration with suitable diagrams.
24. Derive the three equations of motion using the graphical method.
25. What do you understand by uniform and non-uniform motion? Explain with suitable graphs.
26. Draw and explain the velocity-time graph for an object in (a) uniform motion, (b) uniform acceleration, and (c) uniform retardation.
27. A car travels with a uniform speed of 72 km/h for 15 minutes and then with a speed of 54 km/h for 10 minutes. Find the total distance travelled and the average speed.
28. What is the meaning of negative acceleration? Give an example and explain with a velocity-time graph.
29. How are distance and displacement different? Can the displacement be zero even if the distance is not? Explain with an example.
30. An object is thrown upward with a velocity of 30 m/s. Calculate:
 - a) The time taken to reach the highest point
 - b) The maximum height reached
 - c) The total time of flight
 (Take $g = 10 \text{ m/s}^2$)

Social
Science

Topic: (The Story of Village Palampur)

1. Activity : Interview a local farmer (or parent/grandparent) and write a report on the use of technology in agriculture.
2. Write a note on “Modern farming methods are more harmful than beneficial.” (Write points for both , in favour and against the statement)

Topic : (People as Resource)

1. Create a human resource tree with leaves showing types of education and skills that improve productivity.
2. Activity : Conduct a survey (5–10 people) asking about their education, occupation, and skills. Present it in a chart.
3. Poster making: “Educated Youth = Empowered Nation”
4. Watch a documentary/video on skill development or education in India. Write a summary and your thoughts.
5. Prepare a skit on how a girl’s education changes her family and village.

	Topic : (Poverty as a Challenge) 1. Create a mind map on the causes of poverty in India. 2. Design a newspaper front page highlighting real-life stories of people overcoming poverty. 3. Write a note on : “If You were the Prime Minister, how would You remove poverty from your village?” 4. Make a comparison table: Rural vs Urban Poverty (using real examples or data from books/news). Topic : (India – Size and Location + Physical Features) 1. Make a puzzle map of India with physical divisions (Himalayas, plains, plateau, desert, coastal). 2. Design a travel brochure for any one physical feature of India (e.g., Himalayas, Western Ghat and Eastern Ghats) 3. Create a flashcard set to revise key terms (e.g., peninsula, delta, plateau, monsoon, Tropic of Cancer). 4. 4. What did you enjoy most in this holiday homework? What was challenging?
Chemistry	1. Complete handwritten notes of both chapters in your Chemistry notebook. (Make sure to include definitions, examples, diagrams, and important points.) 2. Do any one simple activity based on separation of mixtures at home (e.g., filtration, evaporation, decantation). (Write steps, observation, and conclusion on an A4 sheet. Attach a photo if possible.) 3. Make a working model showing any one method of separation or states of matter. (Use simple materials like clay, cardboard, straws, bottles, or waste material.) 4. Revise both chapters and prepare 10 short questions and answers from each chapter in your own words. Class 9 th Assignment Multiple Choice Questions (MCQs) 1. Which of the following has the highest kinetic energy? A) Ice B) Water C) Steam

D) Salt

2. Which process converts a solid directly into gas?

A) Melting

B) Freezing

C) Sublimation

D) Condensation

3. Which state of matter has no definite shape but definite volume?

A) Solid

B) Liquid

C) Gas

D) Plasma

4. The temperature at which a liquid changes into vapour at atmospheric pressure is called:

A) Freezing point

B) Boiling point

C) Melting point

D) Condensation point

5. Which of the following will increase the rate of evaporation?

A) Increase in humidity

B) Decrease in temperature

C) Increase in surface area

D) Decrease in wind speed

6. Which of the following is a pure substance?

A) Milk

B) Air

C) Distilled water

D) Salt solution

7. Which method is used to separate cream from milk?

- A) Filtration
- B) Distillation
- C) Centrifugation
- D) Sedimentation

8. A mixture of sand and salt can be separated by:

- A) Sublimation
- B) Filtration and evaporation
- C) Chromatography
- D) Magnetic separation

9. Which of the following is a colloid?

- A) Sugar solution
- B) Air
- C) Fog
- D) Alloy

10. Tyndall effect is shown by:

- A) True solution
- B) Colloid
- C) Suspension
- D) Both B and C

Assertion (A): Gases can be compressed easily.

Reason (R): The intermolecular spaces in gases are large.

Options:

- A) Both A and R are true, and R is the correct explanation of A.
- B) Both A and R are true, but R is not the correct explanation of A.
- C) A is true, R is false.

D) A is false, R is true.

11.

Assertion (A): A wooden block floats on water.

Reason (R): The density of wood is less than that of water.

(Use the same options as above)

12.

Assertion (A): A gas exerts pressure on the walls of its container.

Reason (R): Gas molecules have high kinetic energy and collide with each other and the walls of the container.

(Use same options)

Rj: 13.Assertion (A): Alloys are considered as mixtures.

Reason (R): The components of alloys can be separated by physical methods.

14.

Assertion (A): A solution is a homogeneous mixture.

Reason (R): The solute particles are visible under a microscope.

(Use same options)

15.

Assertion (A): Suspensions settle down on standing.

Reason (R): Particles of suspension are large and can be seen with naked eye.

Two Marks Questions

16. Why does the temperature remain constant during the melting of ice even though heat is supplied?

17. List any two factors that affect the rate of evaporation and explain how

18. Differentiate between homogeneous and heterogeneous mixtures with one example each.

19. Why is filtration not suitable to separate salt from a salt solution?

20. Case Study Question

	Read the passage and answer the following questions (1 mark each): A student is given a mixture of ink and water. He tries to separate it by heating. He notices that after some time, water evaporates and a colored residue is left behind. He also separates a mixture of oil and water using a separating funnel. Q1. Which method did the student use to separate ink from water? Q2. Why is a separating funnel used in the second separation? 21. A student places camphor in an open container. After some time, he notices that the camphor has reduced in quantity without leaving any liquid behind. He also observes that when ice is heated, the temperature remains the same during the phase change. Q1. Which process is responsible for the camphor disappearing? Q2. What is the heat supplied to ice during melting called? Long Answer Question (5 Marks) 22.. Define latent heat of fusion and vaporization. Explain with the help of a diagram why temperature remains constant during a change of state, even when heat is supplied. 23. Explain with diagrams any three physical methods of separating components of a mixture. Write one application for each. 24. Mixed Questions (Across Both Chapters) 25. How does evaporation cause cooling? Explain with an example. 26. Define solute, solvent, and solution with examples. Short Answer (3 Marks Each) 27. Compare the properties of true solution, colloid, and suspension in tabular form (any three differences). 28. Describe an activity to show that matter is made up of particles and particles have space between them. Long Answer Questions (5 Marks Each) 29. What are the characteristics of the particles of matter? Explain with suitable examples. 30. Describe the differences between physical and chemical changes with examples and any two points of difference.
Music	1 Learn and Write Sangeet , Dhvani , Naad , Shruti , Swar , Saptak in Notebook. 2 Make a chart on any one Musical Instrument.

1). **Activity:-**Cell Analogy Project – “My School as a Cell”

Writing:- Make a flowchart of the chapter- The Cell in fair notebook in very effective way by using colours.

Compare parts of a school (Principal, Teachers, Classrooms, Canteen etc.) with parts of a cell (Nucleus, Ribosomes, Cytoplasm, etc.). on chart paper in table form

2) **Critical thinking:** “What If Cells Could Talk?”

Write a fictional dialogue between any two cell organelles (e.g., Mitochondria and Nucleus) discussing their roles, importance, and what happens if one stops working.

Use biological facts in a fun, creative way.

3) **Scientific approach :** Summarize your observations related to onion peel and cheek cell under microscope and draw the labelled diagrams of what you see. You can watch a related video and draw your observations.

4) Solve the assignment shared as a separate attachment in HHW notebook.

Biology Assignment

1. What is the function of endoplasmic reticulum? [1]
2. Why are lysosomes called suicide bags of cell? [1]
3. Which organelle acts like storage sac for solid and liquid content in a cell? [1]
4. Define endocytosis. [1]
5. Name the functional unit of DNA which carries genetic information. [1]
6. Give two examples of unicellular organisms [1]
7. List two important functions of nucleus in a cell. [1]
8. What is the importance of peroxisomes in a cell? [1]
9. Why is cell called fundamental unit of life? [2]
10. What are Golgi bodies? Explain their function. [2]
11. Why is plasma membrane called selectively permeable membrane? [2]
12. A plant cell is kept in sugar solution. What will happen to it and why? [2]
13. What special feature is observed in inner membrane of mitochondria? What is its advantage? [2]
14. What is a gene? Explain its functions. [2]
15. Distinguish between nuclear region of bacterial cell and that of animal cell. [3]
16. Differentiate between cell wall and plasma membrane. [3]
17. Discuss the function of mitochondria as power house of cell. Draw its diagram. [3]
18. Distinguish between prokaryotic cell and eukaryotic cell. [3]
19. Finger skin shrinks if you wash clothes for a long time. Why? Give one more example of phenomenon based on reason given by you. [3]
20. What are plastids? What are the functions of different types of plastids? [3]
21. Distinguish between diffusion and osmosis. [3]
22. What are the functions of cell wall in plants? [3]
23. Discuss the significance of vacuole in a cell. Why do plant cells have large vacuoles? [3]
24. State the functions of [3]
(a) ribosomes (b) centrosomes (c) chromosomes in a cell
25. Distinguish between plant cell and animal cell. Also draw diagrams of each, depicting the distinguishing features. [5]
26. Describe an experiment to demonstrate plasmolysis using cells of Rhoeo leaf. Draw necessary diagrams. [5]
27. Draw a neat labelled diagram of eukaryotic nucleus. How is it different from nucleoid [5]
28. What happens when: [5]
(a) RBCs are kept in concentrated salt solution.

- (b) Rheo leaves are boiled in water and a drop of sugar solution is put on them
 (c) Golgi apparatus is absent in a cell.
 (d) Plasma membrane of cell breaks down.
 (e) dry apricots are kept in pure water for some time. Explain your answer in each case
 29. How is REK different from SER? What role does ER play in membrane biogenesis? [5]

Maths

Activity 1. Coordinate Geometry: "City Planner"

Activity: Design a miniature city layout using a coordinate plane. Plot parks, schools, hospitals, roads, etc., and label them with coordinates.

Integration: Social Science, Urban Design

Skills: Planning, geometry application

Activity 2:- Crosswords puzzle.

Crossword Polynomial
 Activity No. ____

Name: _____ Grade & Section: _____ Date: _____

Direction: Complete the crossword polynomial by finding the indicated products below.

1.		2.		3.
		4.		
	5.			
	6.		7.	
8.		9.		10.
11.			12.	

Down

1. $(a + 9)(a - 9)$
2. $(3 + a + b)^2$
3. $(3b - 4a)(3b - 4a)$
5. $(-4a + b)(4a + b)$
7. $(2 - a)(4 - a)$
8. $(4a^2 - 5b^2)(4a^2 + 5b^2)$
10. $(2a + 6b)(2a - 6b)$

Across

1. $(a + 3)(a + 3)$
4. $(b + 4a)^2$
5. $2a(-8a + 3)$
6. $(b + 2)(b + 4)$
9. $-2a(-b + 3 - 2a)$
11. $(5b^2 + 7a^2)(-5b^2 + 7a^2)$
12. $(a - 6b)(a + 6b)$

Activity 3. Solve the riddles

Riddle1: I am a number. I am less than 0 but greater than -5. I am not a whole number, and I have endless digits without repeating. What type of number am I?

Riddle2: I am the only number that is both rational and irrational. What number am I?

Riddle3: I am a non-zero number. When you divide me by my reciprocal, you always get me back. What kind of number could I be?

Riddle4: My square is a rational number, but I am not rational. Who am I?

Riddle5: I am the smallest natural number. Subtracting 1 from me makes me no longer natural. What number am I?

Activity 4.

Create a worksheet titled “My Math Mind”.

- Output: Include your favorite topic, your challenges, a math goal, and strengths.

Activity5:

Designing Warli Art with Geometric Patterns (Using Heron’s Formula)

- Briefly research Warli art — its origin, style, and motifs (stick figures, geometric patterns, daily life scenes).
- Create a Warli art scene on an A4 sheet (village life, farming, dancing, etc.).
- Ensure the figures include at least 5 distinct triangles of different dimensions.
- (Math Integration)
- Label the sides of the chosen triangles with assumed or measured values (in cm).
- Use Heron’s formula to calculate the area of each triangle.
- Show the step-by-step calculation for each triangle on a separate sheet.

Assess Your Knowledge

Q1.

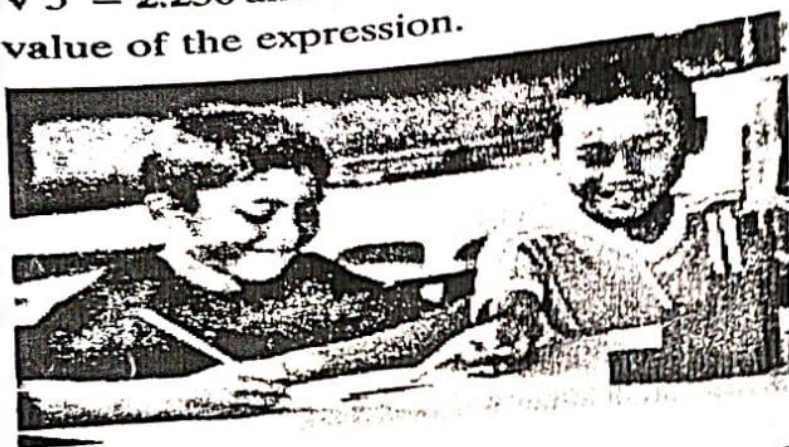
RAINBOW SOCIETY

Games are necessary for health and proper development of body. In residential societies also, clubs are there to keep the people fit and healthy according to their interest. In "Rainbow society" there are 99 flats in which 23 flats have senior citizens who do not participate in club activities and do not give any fund for it. From rest of the flats, 15.75% people have chosen badminton as their activity, remaining have their interest in cricket. On the basis of above information answer the following questions:

- (a) What will be $\frac{p}{q}$ form of 15.75%?
- (b) What is the decimal form of flats which are not giving any funds and not joined any club?
- (c) Convert the decimal form 4.32 into $\frac{p}{q}$ form.
- (d) Express the rational number 0.3 into $\frac{p}{q}$ form.
- (e) Find the decimal form of $\frac{-16}{45}$.

THE CLASS – ROOM BUDDIES

Manik and Dhruv are bench – mates in the class. In the mathematics class, Manik was finding that it was difficult to simplify $1/(\sqrt{5} - \sqrt{2})$. His bench – mate Dhruv gave him a clue to rationalize the denominator by taking the conjugate of $(\sqrt{5} - \sqrt{2})$. Manik simplified the expression and thanked Dhruv for the help. Dhruv also gave him the approximate value of $\sqrt{5} = 2.236$ and $\sqrt{2} = 1.414$ to find the approximate value of the expression.



Based on the above information answer the following questions :

- What is the conjugate of $(\sqrt{5} - \sqrt{2})$?
- Where should we multiply the conjugate of $\sqrt{5} - \sqrt{2}$ to rationalize?
- What is the simplified form of the expression that Manik found out?
- What is the approximate value of the expression did Manik find after putting the values $\sqrt{2} = 1.414$ and $\sqrt{5} = 2.236$?
- Is $\sqrt{5} - \sqrt{2}$ a rational number?

Arun wants to distribute pens in his class on the occasion of his birthday. The polynomial $q(x) = (x - 2)$ represents the number of pens given to each student and polynomial $p(x) = x^3 - 9x^2 + 26x - 24$ represents the total number of pens distributed in the class.

Based on the above information, answer the following questions:

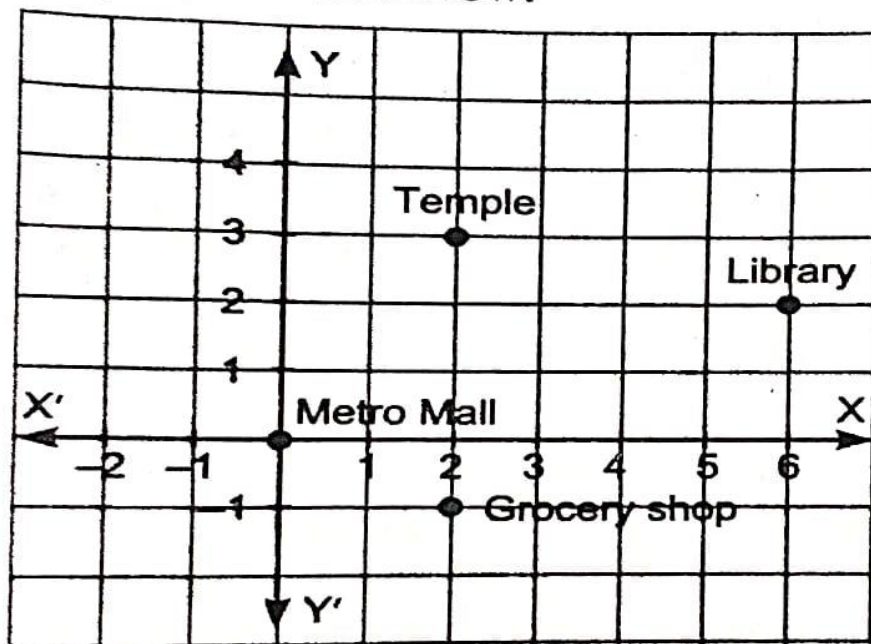
- (a) Find the total number of students in the class, if it is represented by the polynomial $q(x)$.
- (b) Find the zeroes of $q(x)$.
- (c) Find the remainder when $p(x)$ is divided by the polynomial $(2x - 1)$.
- (d) At how many points will the graph of $p(x)$ intersects x -axis?

A father has 3 sons A, B and C. The height of A is $(x + 1)m$ and the height of B is 1m more than the height of A. Also, the product of the heights of 3 Sons is represented by the polynomial $(x^3 + 6x^2 + 11x + 6) m^3$.

Based on the above information, answer the following question:

- (a) Find the height of C in terms of x .
- (b) Find the product of the polynomial representing height of C with the polynomial $(x^2 - 3x + 9)$ using suitable identity.
- (c) If the value of C is 4m, then find exactly the heights of A and B.
- (d) Find the value of the polynomial that is representing the product of heights of 3 sons at $x = 4$.

4. Ram, a student of class IX, is residing in a village. One day, he went to metro mall along with his brother. From there, he visited three places library, temple and grocery shop. After returning to his village, he plotted a graph by taking the metro mall as origin and marked three places on the graph as per his direction of movement and distance. The graph is shown below:



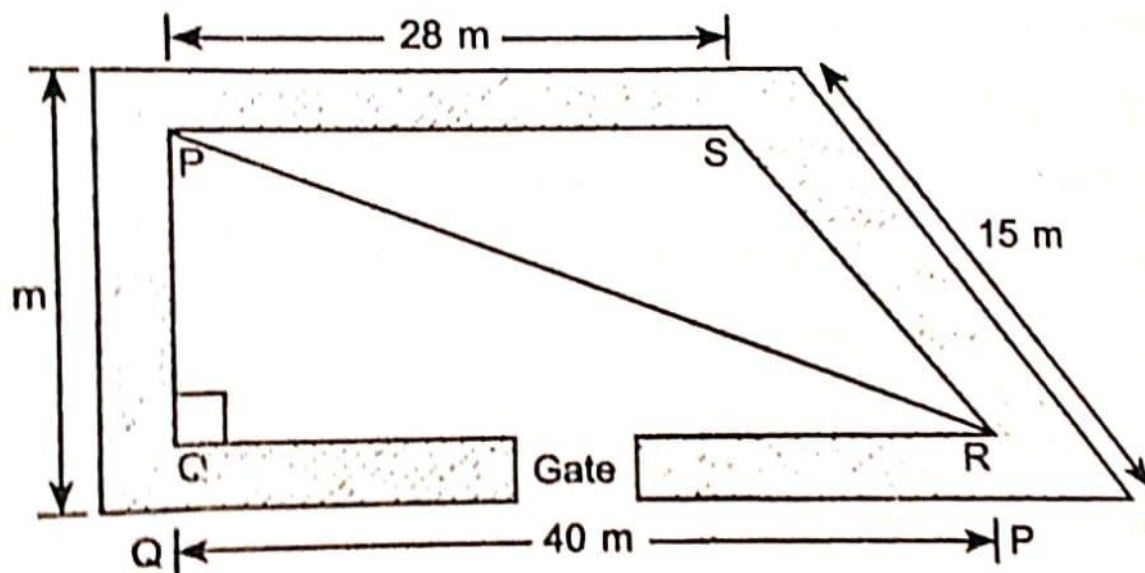
- (a) What are the coordinates of the temple?
- (b) What is the abscissa point of the library?
- (c) What are the coordinates of grocery shop?
- (d) What is the distance between temple and grocery shop?
- (e) What is the sign of coordinates in IV quadrant?

Prime Minister's National Relief Fund (also called PMNRF in short) is the fund raised to provide support for people affected by natural and man-made disasters. Natural disasters that are covered under this include flood, cyclone, earthquake etc. Man-made disasters that are included are major accidents, acid attacks, riots, etc.

Two friends Sohan and Mohan, together contributed ₹ 300 towards Prime Minister's Relief Fund.

- (a) Which out of the following is not the linear equation in two variables?
- (b) How to represent the above situation in linear equations in two variables?
- (c) If Sohan contributed ₹ 80 , then how much was contributed by Mohan?
- (d) If both contributed equally, then how much is contributed by each?
- (e) Which is the standard form of linear equations $x = -5$?

7. Cleanliness has much importance in everyone's life. It is vital for a healthy body, mind and sprit. Recognizing the vital role in spreading the cleanliness, awareness, student of a school staged a rally through the different lanes of the city. In the city, two group of students reached the same field that has a plenty of waste. The field has trapezium in shape as shown below.



They divide the field into two parts PQR and PRS. Each group has cleaned the area given to them by their teacher.

- What is the area of right angle triangle PQR, $\angle Q = 90^\circ$.
- What is the area of $\triangle PRS$?
- Which group cleaned more area and by how much?
- Find the total area cleaned the students.

Revise Chapters

1)Numbers System

2)Polynomials

3)Line & Angels

4)Triangles

5)Coordinate Geometry

6. Heron's Formula

For 80 marks test from half yearly syllabus