



**DUBAI GRAND  
INTERNATIONAL SCHOOL**  
مدرسة دبي الكبرى الدولية  
SUCCESS IN BOTH WORLDS

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## **Important Information for Students and Parents Regarding Summer Break**

### **Summer Vacation Study Activities:**

We have shared a PDF document outlining summer vacation activities for students. Please print a copy and keep it in a designated folder for easy reference.

The provided worksheets are based on the chapters covered before the break. To ensure success, students are encouraged to revise these concepts thoroughly.

### **Debate Competition:**

An inter-class debate competition will be held after the summer break. Topics for debate are included in the English portion of the summer vacation materials.

Participation is mandatory for all students, and it will contribute 5 marks to your final exam score.

### **Summer Break Expectations:**

Complete all assigned worksheets.

Prepare for the debate competition using the provided topics.

Teachers will evaluate both the worksheets and debate preparation upon return.

### **Encouragement for Parents:**

We encourage parents to support their children in utilizing this summer break productively. This includes:

- Clearing any doubts they may have about previous lessons.
- Working on developing other skills by participating in co-curricular activities.

By following these guidelines, students can ensure a smooth transition back into the school year and achieve academic success.

We wish you all a relaxing and enjoyable summer break!

## Physics Worksheet (9<sup>th</sup>)

### **Syllabus contents**

1. Basic terms related to mechanics
2. Concept of rest and motion
3. Distance and displacement
4. Numerical problems on distance and displacement
5. Uniform and non uniform motion
6. Speed. Its equation and units
7. Speed, distance and time relation. Numerical problems
8. Average speed and instantaneous speed.
9. Velocity. Average velocity and instantaneous velocity.
10. Difference between speed and velocity
11. Numerical problems on Average speed
12. Acceleration. Its equation and types
13. Graphical representation of motion
14. Distance time graph of uniform and non uniform motion.
15. Calculation of speed from speed time graph
16. Velocity time graph for uniform and non uniform motion.
17. Calculation of displacement from velocity time graph.
18. Equation of uniformly accelerated motion.
19. Proof of velocity time relation by graphical method.

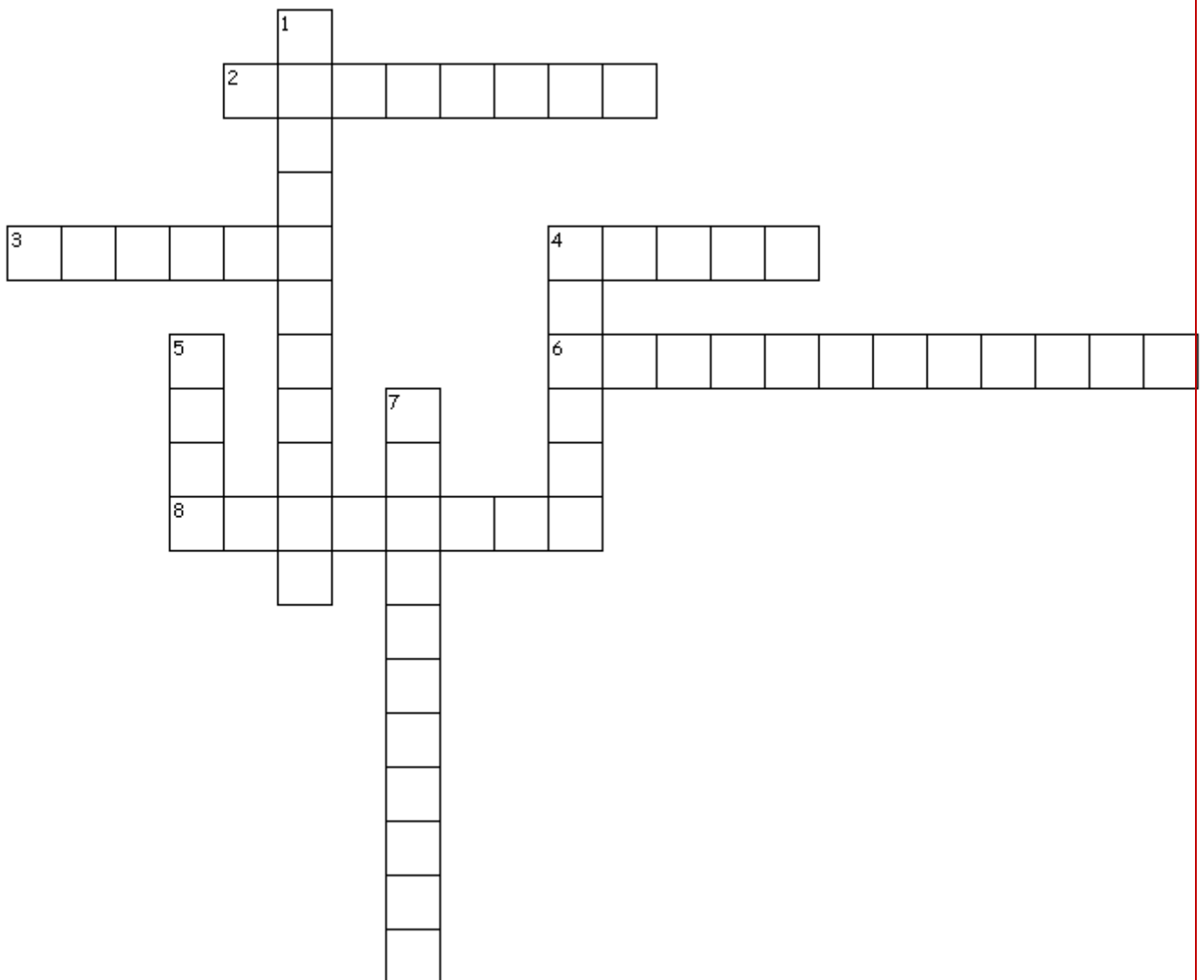
### **A. Define the following terms.**

- a) Kinematics
- b) Dynamics
- c) Position
- d) Point of reference
- e) Frame of reference
- f) Inertial and non inertial frame of reference
- g) Rest and motion
- h) Speed
- i) Velocity
- j) Distance and displacement
- k) Acceleration
- l) Uniform motion and non uniform motion
- m) Instantaneous velocity

### B. Fill in the blanks.

1. A car starts at rest and travel a distance 20 m in 1 sec. The car average speed is \_\_\_\_\_.
2. Motion of earth around sun is an example of \_\_\_\_\_ motion.
3. Tractor moving with 18 km/h is \_\_\_\_\_ then car moving with 1500 m/min.
4. The motion of a free-falling body is an example of \_\_\_\_\_ motion.
5. The curved speed time graph represents \_\_\_\_\_ accelerated motion.
6. Distance is a \_\_\_\_\_ quantity while displacement is a \_\_\_\_\_ quantity.

### C. Crossword Puzzle.



#### Across

2. Physical quantity obtained by dividing displacement with time taken
3. A quantity having both magnitude and direction
4. This remains constant in uniform circular motion
6. It is the slope of speed -time graph

8. This measures the distance travelled by the car

### **Down**

1. This is the other name for negative acceleration
4. The speed is said to be a
5. This is the acceleration of the body with uniform velocity
7. This measures the speed of the car

### **D. Numerical problems.**

1. A particle is moving up the inclined plane. Its velocity changes from 15 m/s to 10 m/s in two seconds. Find its acceleration.
2. An object moves along a circular path of diameter 14cm with constant speed. If it takes 2 min. to move from a point on the path to the diametrically opposite point. Find
  - (a) The distance covered by the object
  - (b) The speed
  - (c) The displacement
  - (d) average velocity
3. An electric train is moving with a velocity of 120km/hr. How much distance will it move in 30s?

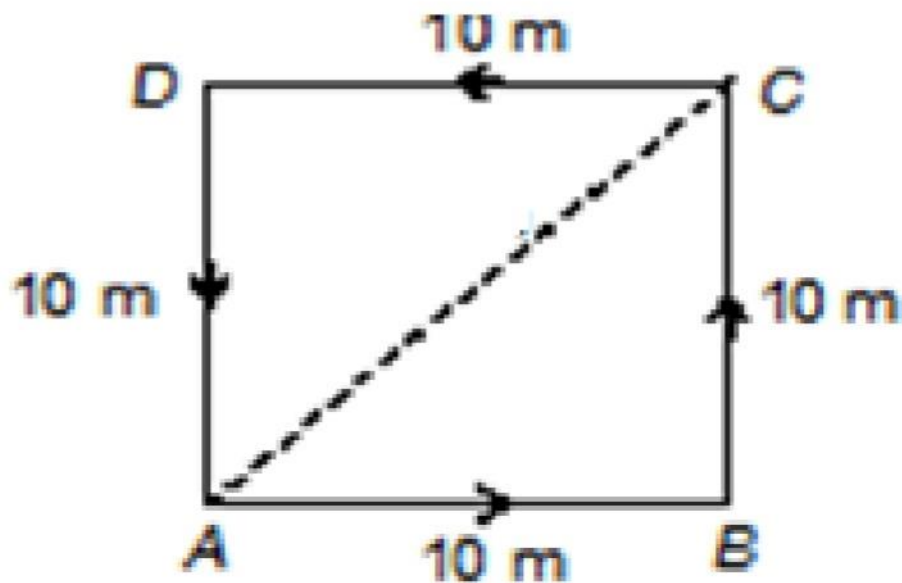
### **E. Conceptual questions.**

1. A person goes to market, makes purchases and comes back at a constant slower speed. Draw displacement- time and velocity time graphs of the person.
2. A person moves in a circular path centred at its origin O and having radius 1m. He starts from A and reaches diametrically opposite point B, then find the distance between A and B and the magnitude of displacement between A and B.

### **F. Case study questions.**

1. Distance and displacement are two quantities that seem to mean the same but are different with different meanings and definitions. Distance is the measure of “how much distance an object has covered during its motion” while displacement refers to the measure of “how far is the object actually from initial place.” Using this data answer the following questions.
  - a) Kapil travels 20 km North but then comes back to South for 40 km to pick up a friend. What is kapil’s total distance?
  - b) Rahul travels 20 km East but then comes back to West for 10 km. Find displacement.

2. Answer the following questions by observing the following diagram:



- What is the displacement, when the particle moves from point A to D?
- What is the displacement, when the particle moves from point A to C through A-B-C?
- Find distance and displacement covered when the particle moves in path ABCDA i.e. starts from A and ends at A?

### G. Assertion and reasoning questions.

*DIRECTION: In the following questions, a statement of assertion (A) is followed by a reason (R).*

Mark the correct choice as:

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

**1. Assertion:** Displacement of a body may be zero, when distance travelled by it is not zero.

**Reason:** The displacement is the longer distance between the initial and final positions.

**2. Assertion:** Acceleration of a moving body is always positive.

**Reason:** Acceleration of a moving body is the rate of change of velocity.

**3. Assertion:** Speedometer of an automobile measures the average speed of an automobile.

**Reason:** Average velocity is equal to total displacement per total time taken.

**4. Assertion:** Velocity is the speed of an object in a particular direction.

**Reason:** SI unit of velocity is same as speed.

**5. Assertion:** An object can have constant speed but variable velocity.

**Reason:** velocity changes due to change in direction, though speed is same

#### **H. Multiple choice questions.**

1. A body whose position with respect to surrounding does not change is said to be in a state of:

- Rest
- Motion
- Vibration
- Oscillation

2. In the case of moving body

- Displacement  $>$  Distance
- Displacement  $<$  Distance
- Displacement  $\geq$  Distance
- Displacement  $\leq$  Distance

3. Vector quantities are those which have

- Only direction
- Only magnitude
- Magnitude and direction
- None of these

4. What is true about scalar quantities?

- Scalar quantities have direction also.
- Scalars can be added arithmetically.
- There are special laws for scalar addition.
- Scalars have special method to represent.

5. A body said to be in motion if:

- Its position with respect to surrounding objects remains same
- Its position with respect to surrounding objects keeps on changing
- Both (A) and (B)
- Neither (A) Nor (B)

6. Distance is always:

- Shortest length between two points
- Path covered by an object between two points
- Product of length and time
- D. None of the above

7. Displacement:

- Is always positive
- Is always negative
- Either positive or negative
- Neither positive nor negative

8. Examples of vector quantities are:

- Velocity, length, and mass
- Speed, length and mass
- Time, displacement and mass
- Velocity, displacement and force

9. Which of the following is not characteristic of displacement?

- It is always positive.
- It has both magnitude and direction.
- It can be zero
- Its magnitude is less than or equal to the actual path length of the object

10. The value on converting km/h into m/s:

- 5/18
- 5/36
- 5/54
- 5/324

**I.** A particle is moving up an inclined plane. Its velocity changes from 15m/s to 10m/s in two seconds. What is its acceleration A particle is moving up an inclined plane. Its velocity changes from 15m/s to 10m/s in two seconds. What is its acceleration A particle is moving up an inclined plane. Its velocity changes from 15m/s to 10m/s in two seconds. What is its acceleration?

## Chemistry Worksheet (9<sup>th</sup>)

### A. Tick the correct answer.

- Which of the following represents a correct arrangement in the increasing order of force of attraction between their particles
  - Water, Air, Milk
  - Air, Sugar, Oil
  - Oxygen, Water, Sugar
  - Salt, Juice, Air
- The gaseous form of water is called
  - Water gas
  - Water vapour
  - Fog
  - Snow
- Solid has
  - Maximum inter particle space
  - Definite mass but no definite volume
  - Very high compressibility
  - Maximum interparticle force of attraction
- Which of the following has a fixed volume but not a fixed shape
  - Milk
  - Steel
  - Oxygen
  - Carbon dioxide
- The normal human body temperature is
  - 37.5 K
  - 37.5°C
  - 37.5°F
  - None
- Compressibility is the property that is only shown by
  - Solids
  - Liquids
  - Gases
  - All of the above
- The oil floats on water because it is
  - Heavier than water
  - Lighter than water
  - Both a and b



- d. None
8. The more rate of Brownian motion is shown by
- Solids
  - Liquids
  - Gases at low temperatures
  - Gases at High temperature
9. Sponge can be compressed because
- It is a liquid
  - It's is a gas
  - It's is solid with air pores
  - All are correct
10. When a solid is directly changed into gas the process is called
- Fusion
  - Melting
  - Condensation
  - Sublimation

**B. Fill in the blanks.**

- \_\_\_\_\_ can be easily compressed by applying pressure.
- With increase of temperature the \_\_\_\_\_ energy of particles increases.
- Gases and liquids show the property of \_\_\_\_\_ but not solids.
- When pressure is applied on \_\_\_\_\_ it resists change of shape.
- Ice floats on water because it's \_\_\_\_\_ is less than water.

**C. Write T for true and F for false. And also Correct false statements.**

- Temperature is the measure of average energy of particles of matter.
- On the surface of earth pressure is 1 atm.
- Solids are highly compressible.
- The shape of sugar changes when kept in a container.
- Antoine Laurent Lavoisier is old father of chemistry.

**D. Give one word for the following:**

- The mass per unit volume of a substance.
- The force of attraction that holds particles of matter together.
- The instrument used to measure atmospheric pressure
- The process of conversion of solid directly into gas.
- The liquid used in the laboratory thermometer.

**E. Assertion - Reasoning Type Question.**

Direction: Given below are two statements - An assertion (A) and the reason (R). Select the appropriate response given below.

- a. Both (A) and (R) true and (R) is the correct explanation of (A)
  - b. Both (A) and (R) are true and (R) is not the correct explanation of (A)
  - c. (A) is true but (R) is false
  - d. (A) is false but (R) is true
1. Assertion: Gases exert pressure on the walls of the container.  
Reason: the intermolecular force of attraction is very strong in gases.
  2. Assertion: the solids do not diffuse in air.  
Reason: the particles are loosely packed in solids.
  3. Assertion: The boiling point of water is 100 degrees Celsius.  
Reason: the boiling point of water increases at higher altitudes.
  4. Assertion: Ice floats on water.  
Reason: liquids have more density than solids.
  5. Assertion: when sugar and salt are kept in a container they take the shape of the container.  
Reason: sugar and salt are liquid.

**F. Short answer type questions.**

1. Explain with the activity that matters is made up of particles.
2. What is the state of inter particle distance inside a solid, liquid and gas?
3. Define compressibility.
4. Why ice floats on water?
5. Write a short note on your understanding of chemistry for betterment of life.

**G. Long answer type questions.**

1. Do the following conversions
  - a. Minus 78.0 degree Celsius to Kelvin
  - b. 28-degree Celsius Kelvin
  - c. Minus 273.15 degree Celsius to Kelvin
  - d. -40-degree Fahrenheit to degree Celsius
2. Describe Brownian motion. With the help of Brownian motion show that matter is made up of particles and they are in continuous motion.
3. Write at least 10 differences in properties between solid, liquid and gas.
4. Discuss old concepts about the physical nature of matter.
5. Discuss liquefaction of gases by increasing pressure.

## Biology Worksheet (9<sup>th</sup>)

### A. Multiple Choice Questions (MCQs).

1. Which of the following is the powerhouse of the cell?
  - a) Nucleus
  - b) Mitochondria
  - c) Ribosome
  - d) Endoplasmic Reticulum
2. Which structure controls the activities of the cell?
  - a) Cell membrane
  - b) Mitochondria
  - c) Nucleus
  - d) Cytoplasm
3. Which of the following is found only in plant cells and not in animal cells?
  - a) Cell wall
  - b) Nucleus
  - c) Ribosomes
  - d) Golgi apparatus
4. The basic unit of life is the:
  - a) Organ
  - b) Tissue
  - c) Cell
  - d) Organ system
5. Which organelle is responsible for photosynthesis in plant cells?
  - a) Chloroplast
  - b) Mitochondria

c) Lysosome

d) Ribosome

**B. Fill in the blanks.**

1. The \_\_\_\_\_ is the outermost layer of an animal cell.
2. The jelly-like substance inside the cell is called \_\_\_\_\_.
3. \_\_\_\_\_ are known as the protein factories of the cell.
4. In plant cells, \_\_\_\_\_ provide structural support and protection.
5. The process by which cells divide to form new cells is called \_\_\_\_\_.

**C. True or False.**

1. The nucleus contains the cell's genetic material. (True/False)
2. Lysosomes help in the synthesis of proteins. (True/False)
3. All cells have a cell wall. (True/False)
4. Mitochondria are involved in energy production. (True/False)
5. The endoplasmic reticulum is involved in the transport of materials within the cell. (True/False)

**D. Short Answer Type Questions.**

1. What is the function of the cell membrane?
2. Describe the role of the nucleus in a cell.
3. Differentiate between smooth and rough endoplasmic reticulum.
4. Explain the function of chloroplasts in plant cells.
5. Why are lysosomes known as the 'suicide bags' of the cell?

**E. Diagram-based Questions.**

1. Draw and label the structure of a typical plant cell.

**F. Long Answer Type Questions.**

1. Explain the process of cell division. Differentiate between mitosis and meiosis.
2. Describe the fluid mosaic model of the plasma membrane.

## Mathematics Worksheet

### Topic: Number system

Q1. What is result of

a)  $1\frac{5}{8} + 3/10$

b)  $37/41 - 19/30$

c)  $2(\frac{3}{5}) - 4(7/10) + 2(4/15)$

Q2. Divide:

a)  $9/16$  by 6

b) 10 by  $100/3$

c)  $3/10 \div 10/3$

d)  $4 \div 2(\frac{2}{3})$

Q3. Verify the following: Also, write the name of property used in this question.

$$(-3) \times [ (-7) + (-5) ] = [ (-3) \times (-7) ] + [ (-3) \times (-5) ]$$

Q4. Find:

a)  $101.01 \times 0.01$

b)  $11.2 \times 0.15$

c)  $0 \times 9000$

Q5. By what number should  $6(2/9)$  be multiplied to get 40?

Q6. Fill in the blanks with the correct symbol  $>$ ,  $<$ ,  $=$ :

a)  $-3/7$  \_\_\_  $6/-13$

b)  $49 + (-8) - 7$  \_\_\_  $9 - (-13) + 12$

c)  $0.8$  \_\_\_\_\_  $0.88$

Q7. Subtract:

a)  $\frac{3}{4}$  from  $\frac{1}{3}$

b) -7 from  $-4/7$

Q8. Divide the sum of  $65/12$  and  $8/3$  by their difference.

Q9. Arrange the following in Ascending order :  $-5/7$ ,  $4/3$ ,  $-2/5$ ,  $-7/9$ ,  $-1/2$ .

Q10. Find the Prime Factors of following numbers and also find LCM.

a) 512 and 216

b) 315 and 729

Q11. Write true or false and explain why?

a) Is addition associative for rational numbers

b) Is difference of two integers always an integer.

c) Is -1 a multiplicative identity of integers.

d) Is the division of two rational numbers always a rational number.

Q12. \_\_\_\_\_ is the identity for the addition of rational numbers.

(a) 1

(b) 0

(c) -1

(d)  $1/2$

Q13. Solve:

a)  $1 \div 2\frac{2}{5} + (1 \div 1\frac{1}{2}) + (1 \div 1\frac{4}{5})$

- b)  $(1\frac{1}{3} \div 1\frac{1}{2}) \div 1\frac{1}{2}$   
 c)  $(1 \div 2\frac{3}{4}) + (1 \div 3\frac{1}{2})$   
 d)  $(^{-12}{/}{7} \times ^{-56}{/}{27}) - (^{-8}{/}{45} \times ^{5}{/}{24})$ .

**Topic: ALGEBRA**

Q1. What is the value of X if

- a)  $X + 3/7 = 7/17$   
 b)  $\frac{x}{3} + \frac{x}{2} = \frac{3}{5}$   
 c)  $\frac{(x+4)}{3} + \frac{(x+9)}{2} = 16$   
 d)  $2(y - 5) + 3(y - 2) = 11 + 2(y - 3)$   
 e)  $\frac{2X-1}{3} - \frac{x}{4} + \frac{3X}{5} = 7$   
 f)  $\frac{(5x+4)}{3x+2} = \frac{7}{4}$   
 g)  $\frac{x}{3} - x = \frac{6}{5}$   
 h)  $7(x - 4) + 3(3x - 1) - 9(-4x - 3) = -3(2x + 1)$   
 i)  $\frac{4}{3} - \frac{1}{7} + \frac{2x}{9} = \frac{x}{9} + \frac{4}{3}$

Q2. Four-fifths of a number is greater than three-fourths of a number by 8. Find the number.

Q3. Ten added to thrice a whole number gives 40. Find the number.

Q4. Write down any 8 algebraic identities in terms of variable p and q.

**Topic: Geometry**

Q1. Find the Perimeter of:

- a) Rectangle with L= 13 cm, B= 23 cm  
 b) Square with side 17cm  
 c) Equilateral triangle with side 31cm  
 d) Circle with diameter 14 m

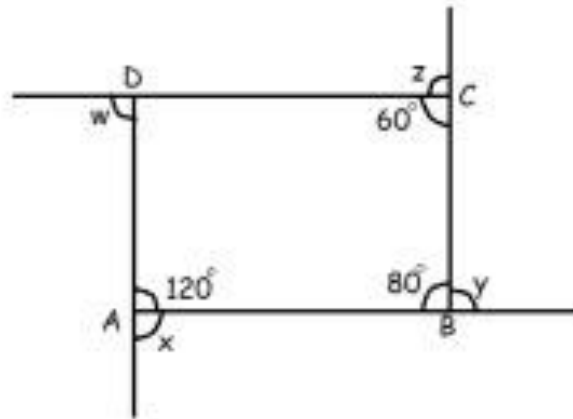
Q2. Write down the area formulas of given names.

- a) Parallelogram  
 b) Triangle  
 c) Trapezium  
 d) Circle

Q3. Sum of interior angles of a polygon of 10 sides is \_\_\_\_\_.

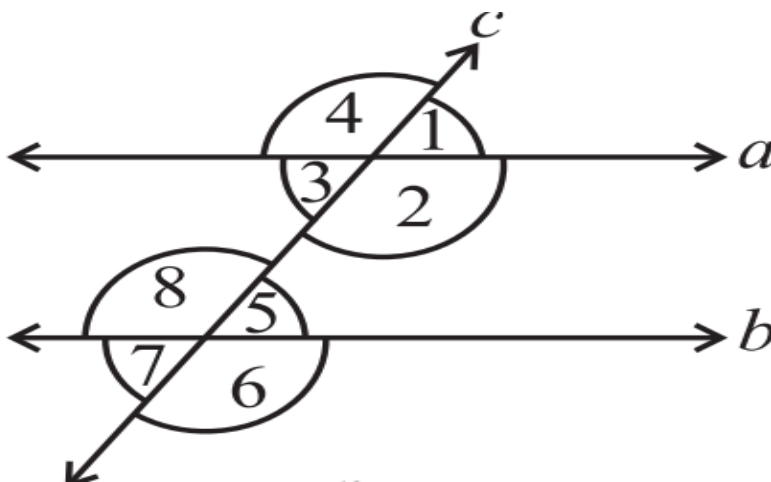
Q4. How many diagonals are there in a polygon having 16 sides?

Q5. Find  $x + y + z + w$  in the given figure

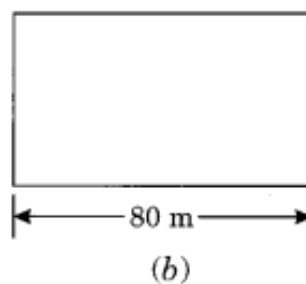
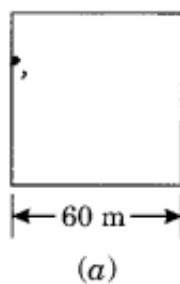


Q6. In the adjoining figure, identify:

- The pairs of corresponding angles.
- The pairs of alternate interior angles.
- The pairs of interior angles on the same side of the transversal.
- The vertically opposite angles.



Q7. A square and a rectangular field with measurements as given in the figure have the same perimeter. Which field has a larger area?





دہی گرینڈ انٹرنیشنل اسکول سرینگر

ورک شیٹ اردو

ہدایات:

- ۱۔ ورک شیٹ کو اردو کاپی (fare note book Urdu) پر اندراج (index) کے ساتھ تحریر کریں۔
- ۲۔ کیلیگرافی (calligraphy) سے لکھیں گے۔ جو قلم کشمیری کاپی کے لئے استعمال کرتے ہیں۔
- ۳۔ صاف صاف صبر و تحمل کے ساتھ اپنی تحریر میں سدھار لانے کی حتی الامکان کوشش کرتے ہوئے تحریر کریں۔



(1) 10 جولائی 2024ء کے اردو روزنامہ "کشمیر عظمیٰ" کی اپنی من پسند تین سرخیاں تحریر کیجئے۔

(یاد رہے کہ 10 جولائی کے اس اخبار سے متعلق آپ کو سوالات پوچھے جائیں گے۔)

(2) 12 جولائی کے 2024ء "روزنامہ آفتاب" کی کوئی من پسند ایک خبر کی رپورٹ پوری تحریر کیجئے۔

(3) درج ذیل اردو شعراء کے کوئی بھی من پسند تین تین اشعار زبانی یاد کر کے صاف صاف تحریر کیجئے۔

۱۔ علامہ اقبال

۲۔ غالب

۳۔ فیض احمد فیض