_____

1. Sum of all the interior angles in a triangle is –
    i) 180^0 ii) 280^0 iii) 380^0 iv) 360^0

2. Opposite angles of a parallelogram are –
        i)   Equal   ii) Not equal   iii) 180^0 iv) 360^0

3. Assumptions which are specific to geometry are –
 i)   Theorems   ii) PostulatesI   ii) Axioms. iv) Proofs .

4. Point (2, - 3) lies in the –
 i) I- Quadrant   ii) II- Quadrant   iii) III- Quadrant   iv) IV - Quadrant .

5. Between two rational numbers there is/are–
 i) Infinite number of rational numbers   ii) one and only one rational number
 iii) no rational number   iv) no irrational number

6. Degree of the polynomial $4y^4+3y^2-4y+5$ is -
    i) 2   ii) 3   iii) 4   iv) 1 .

7. Which of the following is irrational?
 i) $\sqrt{4}$ (ii) $\dfrac{4}{5}$ (iii) $\sqrt{3}$ (iv) $\sqrt{81}$

8. The linear equation $9x -5y = 8$ has –
  i) A unique solution   ii) Two solutions iii) infinitely many solutions .

9. Thedistance of the (4,–3) from y–axis is-
    i) 3units   (ii)–3units   (iii)4units   (iv) 5units

10. If (2,0) is a solution of the line are quation $2x+3y=k$, then   the value of k is
    i) 4   ii) 6   iii) 5   iv) 2

11. In Fig., POQ is a line. Then find the value of x.

i) 25   ii) 41   iii) 45   iv) 20

12. A quadrilateral has only one pair of opposite side is parallel , it is –
    i) Trapezium   ii) Rhombus   iii) Kite   iv) none of these

13. Every rational number is –
    i) a natural number   ii) an integer   iii) a real number   iv) a whole number

14.If equal are added to equals, the wholes are –
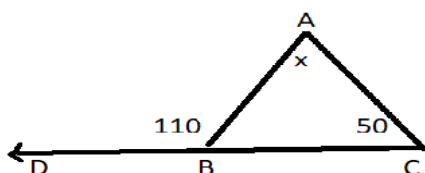   i) smaller   ii) greater   iii) double   iv) equal

15. What is the value of $(27)^{1/3}$?
        i) 5   ii) 3   iii) 15   iv) 125
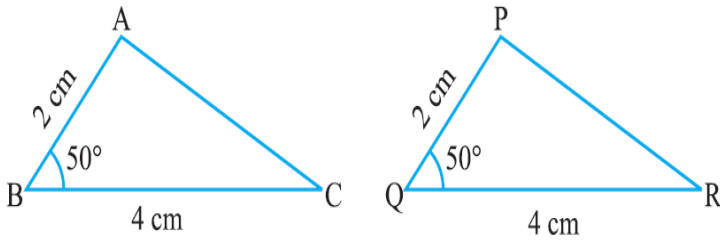
16. What is the coefficient of y^2 in $4 – y – 4y^2$
        i) 1   ii) -4   iii) 4   iv) 2

17. In triangle ABC, if angle ABD is an exterior angle, then find the value of x.

    i) 123^0 ii) 41^0 iii) 45^0 iv) 60^0

18. By which congruence rule, ΔABC ≅ ΔPQR?

        i) AAS   ii) SSS   iii) SAS   iv) ASA

DIRECTION: In the question number 19 and 20, a statement of **assertion (A)** is followed by a statement of **Reason (R)**.

Choose the correct option

19 . *Statement A (Assertion):* A linear equation in two variables has infinitely many solutions .

Statement R(Reason) : An equation $2x+2y = 10$ has solutions (3,2) and (5, 0)

(a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A)

(b) Both assertion (A) and reason (R) are true and reason (R) is not the correct explanation of assertion (A)

(c) Assertion (A) is true but reason (R) is false.

(d) Assertion (A) is false but reason (R) is true.

20 . *Statement A (Assertion):* $\sqrt{7}$ is an irrational number.

*Statement R(Reason)* : Square root of a positive integer which is not a perfect square is an irrational number.

(a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A)

(b) Both assertion (A) and reason (R) are true and reason (R) is not the correct explanation of assertion (A)

(c) Assertion (A) is true but reason (R) is false.

(d) Assertion (A) is false but reason (R) is true.

21. Express $3x +1=6$ y in the form $ax+by+c=0$ and write the value of a, b and c.
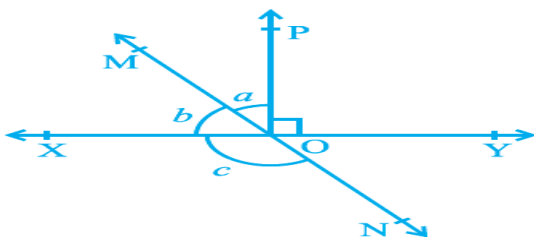
22. Verify: (i) $x^3-y^3 = (x -y) (x^2+xy + y^2$

23. Name the quadrant or axis in which these points lies –: (3,5) , (-5,0) , (-7,-5) , (3, -5)

24. Find the value of y in given figure .
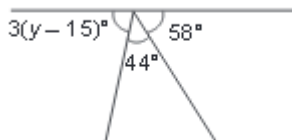
25. If a point 'C ' lies between two points 'A' and 'B' such that AC = BC , then prove that   AC = ½ AB . Explain by drawing the figure.

26. In given figure lines XY and MN intersect at o . If <POY = 90^0 and a:b =2:3,find c.

27. The angles of a quadrilateral are in the ratio 3:5:9:13 Find all the angles of the quadrilateral.

(Case Study)

28. Case study based-1

MATHEMATICAL RACE

One day when students demanded games period, a mathematics teacher of class 9th said, "Today we will play a mathematical race". The teacher said that the students have to run from point A to B and must solve the problem placed at point B and then return to point A. Whosoever returns with correct solution, would be declared the winner.

The question contained an expression $3x^2 - 5x + 5$. And the questions are as follows.

I) What is the degree of this polynomial?
- ii) What is the coefficient of x^2
- iii) What is the value of this polynomial at $x = 5$

29. Case study 2 -On environment day, class-9 students got five plants of mango, silver oak, orange, banyan and amla from soil department. Students planted the plants and noted their locations as(x, y).

	Mango	Silver Oak	Orange	Banyan	Amla
x	2	3	0	–3	–2
y	0	4	7	4	0

(i) What is the abcissa for the location of Banyan tree.

(ii) What is the ordinate for the location of Silver Oak?

iii)Name the trees located on x axis.

30. Case study 3

A pattern is a regularity in the world, in human-made designs, or nature designs. A geometric pattern is a kind of pattern formed of geometric shapes. In figure B, Δ ABC and Δ PQR are equilateral triangles.
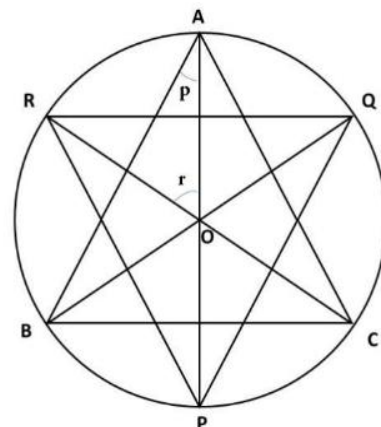

Figure (a)

Figure (b)

- i. Write a pair of parallel lines and its transversal.
- ii. Write a pair of vertically opposite angles.
- iii. Write two sets of linear pair angles.

KENDRIYA VIDYALAYA, PANISAGAR
AUTUMN HOLIDAY HOMEWORK
CLASS IX
SUBJECT- SCIENCE (BIOLOGY)

Q1. What are the functional differences between a plasma membrane and cell wall?

Q2. Write a note on Golgi apparatus and the functions it performs.

Q3. Draw a labelled diagram of mitochondria. Write the functions of mitochondria.

Q4. Differentiate between parenchyma and collenchyma.

Q5. What is a neuron? Write the structure and functions of a neuron.

1. Class 9- Exercise of Atoms and Molecules chapter

AUTUMN HOLIDAY HOMEWORK

CLASS –IX

SUBJECT- COMPUTER SCIENCE

1. In what ways is the World Wide Web different from other servers on the Internet?
2. What is a server? What is a web server?
3. What is WWW? How does it function?
4. What is the importance of Communication skills?

[Note – Must write all questions in your school classwork copy.]

HOME – WORK FOR NEXT **POOJA** VACATION
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(AUTUMN BREAK HOMEWORK-2023-24)

CLASS IX   SUBJECT : SOCIAL SCIENCE

1. Write note on any four points given below (about 120 words each)
   a. Poverty in India
   b. Elections in India
   c. Factors which led to the enclosures in England
   d. Tropical Evergreen and Deciduous forests
   e. Advantages of having healthy population

2. Map pointing
   Label the following on outline map of India

      i. **National Parks** - Manas, Kaziranga, Simlipal, Bandipur, Rajaji, Dachigam, Dudhwa, Corbett, Gir, Kanha, Keoladeo (Ghana)
      ii. Wildlife Sanctuary – Periyar, Kawal , Sariska, Chandraprabha

1. Prepare interdisciplinary project on given topic. (See CBSE syllabus)

2. Prepare Art Integrated Project on Paired State (Madhya Pradesh)

3. Prepare a project on Disaster Management.

1. How does the force of gravitation between two objects change when the distance between them is reduced to half ?

2. Gravitational force acts on all objects in proportion to their masses. Why then, a heavy object does not fall faster than a light object?

3. What is the magnitude of the gravitational force between the earth and a 1 kg object on its surface? (Mass of the earth is 6×10^{24} kg and radius of the earth is 6.4×10^6 m.)

4. The earth and the moon are attracted to each other by gravitational force. Does the earth attract the moon with a force that is greater or smaller or the same as the force with which the moon attracts the earth? Why?

5. If the moon attracts the earth, why does the earth not move towards the moon?

6. What happens to the force between two objects, if

   (i) the mass of one object is doubled?

   (ii) the distance between the objects is doubled and tripled?

   (iii) the masses of both objects are doubled?

7. What is the importance of universal law of gravitation?

8. What is the acceleration of free fall?

9. What do we call the gravitational force between the earth and an object?