

INFANT JESUS CONVENT SCHOOL

SESSION: 2024-25

CLASS: 9

WINTER HOLIDAYS HOMEWORK

English

1. Do the given Reading comprehension passages.
2. Imagine a conversation between Evelyn Glennie (The Sound of Music), Santosh Yadav (Reaching for the Top), and Dr. Kalam (My Childhood). Write dialogues where these three characters discuss the role of determination and resilience in overcoming challenges. How does each character's experience inspire you? Do it on A4 size sheet.

Hindi

संचयन पुस्तक के सभी पाठों को ध्यान पूर्वक पढ़ें व याद करें व दिए गए दोनों सैंपल पेपर को A-4 size sheets पर हल करें।

गतिविधि: पुस्तक के लेखक व कवियों के चित्रों का कोलाज बनाएं।

Punjabi

Activity 1. ਮਾਤਾ ਗੁਜਰੀ ਜੀ ਦੇ ਜੀਵਨ ਉੱਤੇ P.P.T ਬਣਾਓ ।

Activity 2. ਆਪਣੀ ਸਵੈ ਰਚਿਤ ਕਵਿਤਾ / ਕਹਾਣੀ / ਲੇਖ / ਗੀਤ (ਕੋਈ ਇੱਕ) ਲਿਖੋ।

P.T. 3 Punjabi ਦੇ ਪੂਰੇ ਮਿਲੇਬਸ ਦੀ ਦੁਹਰਾਈ ਕਰੋ ।

Mathematics

1. Complete activities in lab file
 - I) Square root spiral
 - II) Mirror image
 - III) Statistics
 - IV) Triangles
 - V) polynomial
2. Complete portfolio activities
 - I) Euclid's life history

II) Heron's formula

III) Quadrilateral

3. Make a formula handbook based on full syllabus

4. Solve the sample paper(pdf shall be shared in class group) in revision copy.

Social Studies

1) Inter-disciplinary project: Make a table denoting names of different types of forests of India and places where they are found. Mark the natural vegetation of India on a political map of India (Refer to geography chapter 5). Explain why did British government do deforestation on a large scale in India? How were the lives of forest dwellers affected by the new laws and policies of the British government? (Refer to history ch- 4)

2) Read History chapter 3 Nazism and the Rise of Hitler

Science

Read lesson 1-12

BIOLOGY

CH-12- Improvement in Food Resources :

*Make a PPT on animal husbandry.

*Draw mind map of the chapter.

CHEMISTRY

CH -4 Structure of the atom:-

*Comic strip on discovery of atom and fundamental particles.

INTANT JESUS CONVENT SCHOOL
SAMPLE PAPER FOR CLASS 9

- This question paper contains 38 questions. All questions are compulsory.
- Question paper is divided into five sections – Section A, B, C, D and E.
- In section A, question number 1 to 18 are multiple choice questions (MCQs) and question number 19 and 20 are Assertion – Reason based questions of 1 mark each.
- In section B, question number 21 to 25 is very short answer (VSA) type questions of 2 marks each.
- In section C, question number 26 to 31 are short answer (SA) type questions carrying 3 marks each.
- In section D, question number 32 to 35 are long answer (LA) type questions carrying 5 marks each.
- In section E, question number 36 to 38 are case based integrated units of assessment questions carrying 4 marks each. Internal choice is provided in 2 marks question in each case study.
- There is no overall choice. However, an internal choice has been provided in 2 questions in Section B, 2 questions in Section C and 2 questions in Section D.
- Use of calculator is not allowed.

Section-A

Consists of Multiple Choice Type questions of 1 mark each.

Q 1. The decimal expansion of the number $2 - \sqrt{3}$ is

- (A) a finite decimal
- (B) 1.41421
- (C) non-terminating recurring
- (D) non-terminating non-recurring

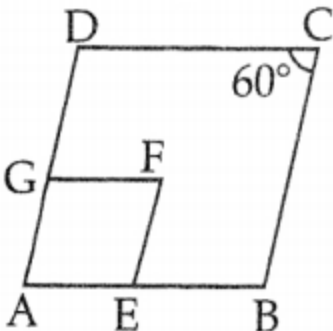
Q 2. Which of the following needs proof?

- (A) Theorem
- (B) Axiom
- (C) Definition
- (D) Postulate

Q 3. The diagonals AC and BD of a parallelogram ABCD intersect each other at the point O. If $\angle DAC = 32^\circ$ and $\angle AOB = 70^\circ$, then $\angle DBC$ is equal to

- (A) 24°
- (B) 86°
- (C) 38°
- (D) 32°

Q 4. In the following figure, ABCD and AEF G are two parallelograms. If $\angle C = 60^\circ$, then $\angle GFE$ is



- (A) 30°

- (B) 60°
- (C) 90°
- (D) 120°

Q 5. The sides of a triangle are 35 cm, 54 cm, and 61 cm, respectively. The length of its longest altitude is

- (A) $16\sqrt{5}$ cm
- (B) $10\sqrt{5}$ cm
- (C) $24\sqrt{5}$ cm
- (D) 28 cm

Q 6. Which of the following is not a criterion for congruence of triangles?

- (A) SAS
- (B) ASA
- (C) SSA
- (D) SSS

Q 7. The degree of the zero polynomial is

- (A) 0
- (B) 1
- (C) any natural number
- (D) not defined

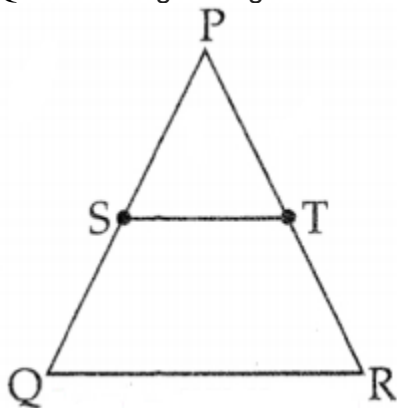
Q 8. The complementary angle of 65° is

- (A) 65°
- (B) 25°
- (C) 75°
- (D) 35°

Q 9. In triangles ABC and PQR, $AB = AC$, $\angle C = \angle P$ and $\angle B = \angle Q$. The two triangles are

- (A) isosceles but not congruent
- (B) isosceles and congruent
- (C) congruent but not isosceles
- (D) neither congruent nor isosceles

Q 10. In the given figure S is the mid-point of PQ and $ST \parallel QR$ then PT is equal to



- (A) SQ
- (B) PS
- (C) TR
- (D) QR

Q 11. In a histogram, which of the following is proportional to the frequency of the corresponding class?

- (A) Area of the rectangle
- (B) Length of the rectangle
- (C) Width of the rectangle

(D) Perimeter of the rectangle

Q 12. A diagonal of a rectangle is inclined to one side of the rectangle at 25° . The acute angle between the diagonals is

- (A) 55°
- (B) 50°
- (C) 40°
- (D) 25°

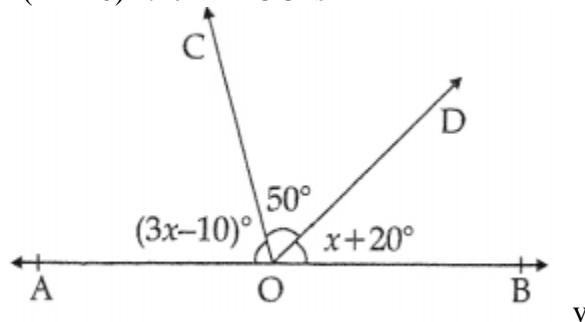
Q 13. The factorization of $4x^2 + 8x + 3$ is

- (A) $(x + 1)(x + 3)$
- (B) $(2x + 1)(2x + 3)$
- (C) $(2x + 2)(2x + 5)$
- (D) $(2x - 1)(2x - 3)$

Q 14. If bisectors of $\angle A$ and $\angle B$ of a quadrilateral ABCD intersect each other at P, of $\angle B$ and $\angle C$ at Q, of $\angle C$ and $\angle D$ at R and of $\angle D$ and $\angle A$ at S, then PQRS is a

- (A) rectangle
- (B) rhombus
- (C) parallelogram
- (D) quadrilateral whose opposite angles are supplementary

Q 15. In the given figure, AOB is a straight line. If $\angle AOC = (3x - 10)^\circ$, $\angle COD = 50^\circ$ and $\angle BOD = (x + 20)^\circ$ then $\angle AOC$ is



- (A) 40°
- (B) 60°
- (C) 80°
- (D) 50°

Q 16. It is known that if $x + y = 10$ then $x + y + z = 10 + z$. The Euclid's axiom that illustrates this statement is

- (A) First Axiom
- (B) Second Axiom
- (C) Third Axiom
- (D) Fourth Axiom

Q 17. Point $(0, -7)$ lies

- (A) on the x-axis
- (B) in the second quadrant
- (C) on the y-axis
- (D) in the fourth quadrant

Q 18. If $(x + 2)$ is a factor of $g(x) = 3x^2 + x - k$, then value of k will be

- (A) 12
- (B) 8
- (C) 10
- (D) 14

Directions: In the following questions, a statement of Assertion (A) is followed by a statement of Reason (R). Mark the correct choice as:

- (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, but 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.

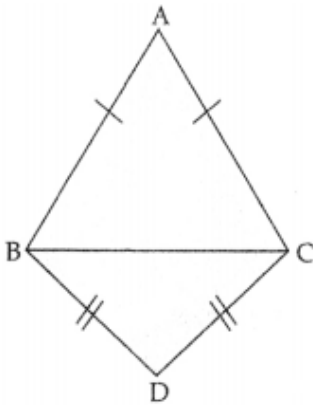
Q 19. Assertion (A): A polynomial may have more than one zero.
 Reason (R): Every real number is zero of the zero polynomial.

Q 20. Assertion (A): If an angle is 14° more than its complementary angle, then the angle is 52° .
 Reason (R): Two angles are said to be supplementary if their sum is 180° .

Section-B

Consists of 5 questions of 2 marks each.

Q 21. In the figure, $\triangle ABC$ and $\triangle DBC$ are two isosceles triangles on the same base BC. Prove that $\angle ABD = \angle ACD$.



Q 22. Rationalise: $\frac{7}{7-\sqrt{2}}$

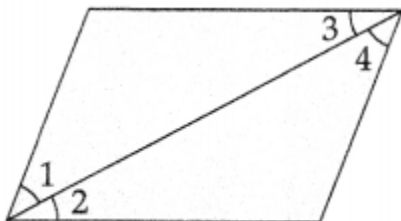
Q 23. Factorize: $64a^3 - 27b^3 - 144a^2b + 108ab^2$

Q 24. Find the equations of any two lines passing through the point $(-1, 2)$. How many such lines can be here?

OR

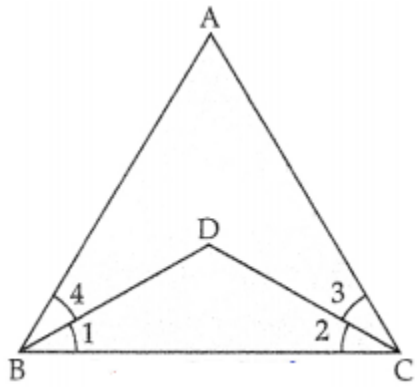
In which quadrant or on which axis does each of the following points lie $(-5, 3)$, $(4, -3)$, $(5, 0)$, $(6, 6)$, $(-5, -4)$?

Q 25. In the given figure, if $\angle 1 = \angle 3$, $\angle 2 = \angle 4$, and $\angle 3 = \angle 4$, write the relation between $\angle 1$ and $\angle 2$, using Euclid's axiom.



OR

In the given figure, we have $\angle ABC = \angle ACB$, $\angle 3 = \angle 4$. Show that $\angle 1 = \angle 2$.



Section-C

Consists of 6 questions of 3 marks each.

Q 26. If $f(x) = 5x^2 - 4x + 5$, find $f(1) + f(-1) + f(0)$.

Q27.If $f(x) = 3x + 5$, evaluate $f(7) - f(5)$.

Q 28.Find the percentage increase in the area of a triangle, if its each side is doubled.

OR

The sides of a triangular field are 51 m, 37 m, and 20 m. Find the number of rose beds that can be prepared in the field if each rose bed occupies a space of 6 sq. m.

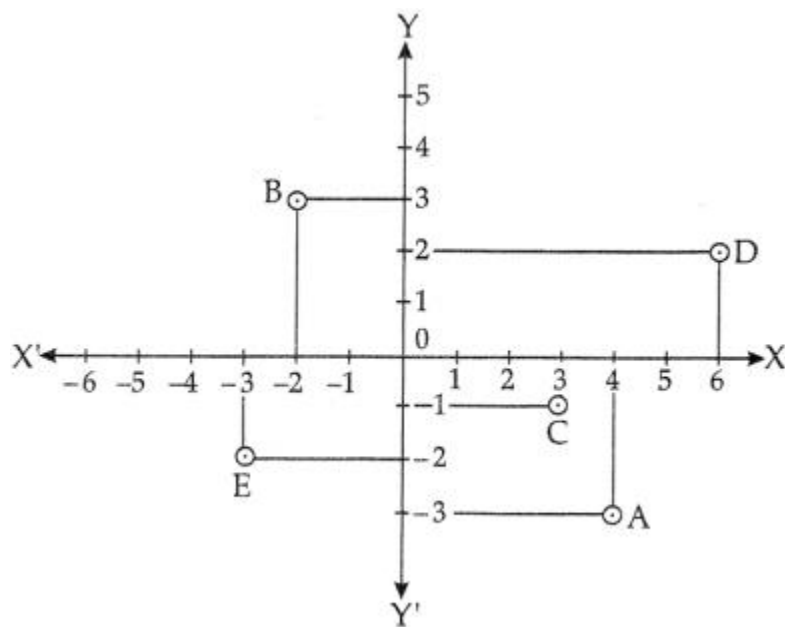
Q 29.Solve the equation $2x + 1 = x - 3$ and represent the solution(s) on

(i) the number line.

(ii) the Cartesian plane.

OR

See the figure and write the following:

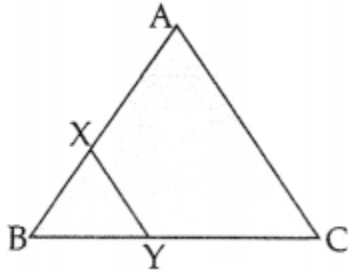


(i) The co-ordinate of B.

(ii) The point identified by the coordinates $(-3, -2)$.

(iii) The abscissa of the point D.

Q 30. In a triangle, ABC, X and Y are the points on AB and BC such that $BX = BY$ and $AB = BC$. Show that $AX = CY$. State the Euclid's Axiom used.



Q 31. For what value of p ; $x = 2$, $y = 3$ is a solution of $(p + 1)x - (2p + 3)y - 1 = 0$ and write the equation.

Section-D

Consists of 4 questions of 5 marks each.

Q 32. The sides of a triangular park are 5 m, 7 m, and 8 m respectively. Find the cost of leveling the park at the rate of ₹ 10 per m^2 . (Use $\sqrt{3} = 1.73$)

OR

The water for an industry is stored in a hemispherical tank with an internal diameter of 14 m. The tank contains 40 kilolitres of water. Water is pumped into the tank to fill it. Calculate the volume of water pumped into the tank.

Q 33. Give two rational numbers whose

- (i) difference is a rational number,
- (ii) sum is a rational number,
- (iii) product is a rational number,
- (iv) division is a rational number.

Justify also.

Q 34. The following table gives the lifetime of 400 neon lamps:

Life Time (in Hours)	Number of Lamps
300-400	14
400-500	56

500-600	60
600-700	86
700-800	74
800-900	62
900-1000	48

(i) Represent the given information with the help of a histogram.

(ii) How many lamps have a lifetime of more than 700 hours?

OR

Draw a histogram to represent the following grouped frequency.

Age (in years)	5-9	10-14	15-19	20-24	25-29	30-34	35-39
No. of Persons	10	28	32	48	50	35	12

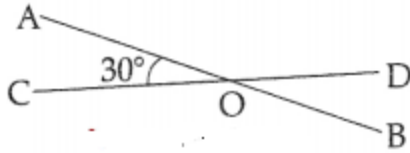
Also, draw frequency polygon.

Q 35. Factorize: $x^{12} - y^{12}$.

Section-E

Cased-Based Subjective Questions

Q 36. Harry was going on a road trip with his father. They were travelling on a straight road. After riding for some distance, they reach a crossroad where one straight road cuts the other at 30° .



Now using the given information, answer the following questions.

- (i) Find the measure of $\angle BOD$.
- (ii) Which property is used in this case?

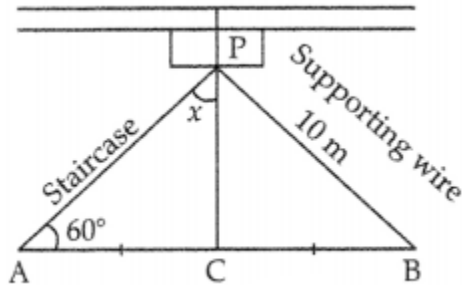
OR

Find the measure of $\angle AOD$.

- (iii) Is $\angle BOC$ equal to $\angle AOD$. If yes give a reason to support your answer.

Q 37. Read the following passage and answer the following questions:

In Rajesh village, there was a big pole PC. This pole was tied with a strong wire of 10 m in length. Once there was a big spark on this pole, the wires got damaged very badly. Any small fault was usually repaired with the help of a rope that normal board electricians were carrying on bicycles. This time electricians need a staircase of 10 m so that it can reach at point P on the pole and this should make 60° with line AC.



- (i) In ΔPAC and ΔPBC which side is common?
- (ii) In the figure, ΔPAC and ΔPBC are congruent due to which criterion?

OR

Find the value of $\angle x = ?$

- (iii) Find the measure of $\angle PBA$

Q 38. Read the following passage and answer the following questions:

Beti Bachao, Beti Padhao (BBBP) is a personal campaign of the Government of India that aims to generate awareness and improve the efficiency of welfare services intended for girls.



In a school, a group of $(x + y)$ teachers, $(x^2 + y^2)$ girls, and $(x^3 + y^3)$ boys organized a campaign on Beti Bachao, Beti Padhao.

- (i) Which mathematical concept is used here?
- (ii) Write the correct identities to be used here.

OR

If in the group, there are 10 teachers and 58 girls, then what is the number of boys?

(iii) Find $(x^2 - y^2)$, if $(x - y) = 23$ and number of teachers are 10?