

# 10th Class General Math Guess Paper 2025 Paper Pattern

- 25% Conceptual
- 75% Knowledge-Based

25% Analytical + Application-Based

## Most Important Short Questions

(Chapters 1, 2, and 3)

Here is your data converted into tabular form:

S.No	Question
1	Factorize: $x^2 + 5x - 6$
2	Find L.C.M. by factorization: $12p^3q^2, 8p^2q^3, 4p^2q^3r$
3	Factorize: $8x^3 - y^3$
4	Remove the radical sign from the denominator: $2/\sqrt{2} * 7/\sqrt{3}$
5	Resolve into factors: $x^4 + x^2y^2 + y^4$
6	Factorize: $x^2 - x - 2$
7	Complete the formula: L.C.M. = ?
8	Factorize: $x^2 + 9x + 20$
9	If $P(r) = 2\pi$ , find $P(r)$ for $r = 3$ and $\pi = 22/7$
10	Factorize: $x^3 + y - xy - x - 2$
11	Factorize: $x^2 - x - 156$
12	Find H.C.F. by factorization: $t^2 - 9, (t + 3)^2$
13	Find H.C.F. by factorization: $abxy, a^2bc, abxy, a^2bc$
14	Factorize: $a^3b^3 + 512 - 20$
15	Solve using formula: $(x + y)^3 - 1$
16	Find H.C.F by factorization: $4abc^3, 8a^3bc, 6ab^3c$
17	If $P(x) = x^4 + 3x^2 - 5x + 9$ then find $P(1)$ ?
18	Solve by using formula: $(ab - 1/ab)^3$
19	Factorize: $ax + ay - x^2 - xy$
20	Solve by using formula: $(3p + q + r)^2$
21	Factorize: $3ax + 6ay - 8by - 4bx$
22	Factorize: $x^2 - 7x + 12x$
23	Define proper rational expression and give one example.
24	If $P(x) = 2x^3 + 2x^2 + x - 1$ find $P(-2)$ .
25	Solve the following question by using formula: $8x^3 + 27y^3$
26	Factorize: $a^3 + a - 3a^2 - 3$
27	Factorize: $x^2 + 5x - 14$
28	Factorize: $1 - 343x^3$
29	Find H.C.F by factorization: $8xy^2z^3, 12x^2y^2z^2$
30	Find L.C.M by factorization: $3a^4b^2c^3, 5a^3b^3c^2$
31	Simplify: $25a^3b^2 / 14a^2b^4$
32	Find the H.C.F of: $12p^3q^2, 8p^2qr^3, 4p^2q^3r$

33	If $P(x) = 2x^3 + 2x^2 + x - 1$ then find $P(-2)$
34	Solve by formula: $(5x + 3y)^2 + (5x - 3y)^2$
35	Factorize: $a^3b^3 + 512$
36	Find L.C.M. by factorization: $21a^4x^3y, 35a^2x^4y, 28a^3xy^4$
37	Find square root: $16x^2 + 24xy + 9y^2$
38	If $P(x) = 9x^3 - 2x^2 + 3x + 1$ then find $P(1)$ ?
39	Solve using formula: $(\ell + m)(\ell - m)(\ell^2 + m^2)$
40	Factorize: $3ax + 6ay - 8by - 4bx$
41	Factorize: $8x^3 - y^3$
42	Find H.C.F by factorization: $4abc^3, 8a^3bc, 6ab^3c$
43	Find L.C.M. by factorization: $2ab, 3ab, 4ca$
44	Find H.C.F by factorization: $8xy^2z^3, 12x^2y^2z^2$
45	Find L.C.M by factorization: $x^2yz, xy^2z, xyz^2$
46	If $P(r) = 4\pi r^2$ , find $P(r)$ for $r = 8$ and $\pi = 22/7$ .
47	Solve $(x + y)^3 - 1$
48	Factorize: $x^3 + y - xy - x$
49	Evaluate $P(x) = x^5 - 10x^3 + 7x + 6$ , $P(3)$
50	Find L.C.M of: $18ab^2c^3, 6ab^2c^3, 24ab^2c^2$
51	Find H.C.F by factorization: $3x^5y^2, 12x^2y^4, 15x^3y^2$
52	Factorize: $ax + ay - x^2 - xy$
53	Find H.C.F by factorization: $14a^2bc, 21ab^2$
54	Find L.C.M by factorization: $x^2yz, xy^2z, xyz^2$
55	If $P(x) = x^4 + 3x^2 - 5x + 9$ , find $P(0)$ .
56	Solve: $(x + 2y)^2 + (x - 2y)^2$
57	Factorize: $27x^3 + 1$
58	Factorize: $2a^2 - bc - 2ab + ac$

Let me know if you'd like any further changes or assistance!

## **Most Important Short Questions**

### ***(Chapters 4, 5, and 6)***

1. Find  $A-2BA-2B$  for given matrices  $A$  and  $B$
2. Additive inverse of  $A=[abcd]$   $A=[acbd]$
3. Solve  $5x-6=4x-25x-6=4x-2$
4. Solve  $6x^2-19x-7=0$   $6x^2-19x-7=0$  by factorization
5. Factorize  $x^4-16x^4-16$

6. Solve  $x+5+7=0$

7. Solve  $\sqrt{x} + 5 + 7 = 0$ .

8. Solve by using factorization:

$$6x^2 - 10x - 7 = 0$$

9. Factorize  $x^4 - 16$ .

10. Given the matrices:

$$A = \begin{bmatrix} 2 & 3 & 4 \\ 1 & 5 & 5 \\ 4 & 9 & 3 \end{bmatrix}, B = \begin{bmatrix} 0 & 1 & 5 \\ 2 & 3 & 6 \\ 1 & 4 & -2 \end{bmatrix}$$

Find  $A - 2B$ .

11. If  $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$ , then what is the additive inverse of  $A$ ?

12. Solve the equation:

$$5x - 6 = 4x - 2$$

13. Solve  $\frac{1}{2}x \geq 1 + \frac{1}{3}x$

14. If  $B = \begin{bmatrix} -3 & -2 \\ -1 & 4 \end{bmatrix}$ , then find the transpose of  $B$ .

15. Solve:  $3x + 3(x + 1) = 69$

16. Solve by using the factorization method:  $(2x + 1)(5x - 4) = 0$

17. If  $B = \begin{bmatrix} 1 & 4 \\ 7 & 6 \end{bmatrix}$  and  $A = \begin{bmatrix} 2 & 1 \\ 3 & 5 \end{bmatrix}$ , then find  $B - A$ .

18. If  $A = \begin{bmatrix} 2 & 3 \\ 1 & -2 \end{bmatrix}$ ,  $B = \begin{bmatrix} -1 & 3 \\ 2 & 1 \end{bmatrix}$ , then find  $(BA)^t$ .

19. Solve  $|x + 2| = 3$ .

20. Solve  $3(2x + 5) = 2$ .

21. Solve  $3(x - 2) < 2x + 1$ .

22. Solve by using the factorization method:

$$4x(3x - 1) - 2 = (2x - 1)(5x + 1)$$

23. Find the transpose of the given matrix  $B = \begin{bmatrix} -3 & -2 \\ -1 & 4 \end{bmatrix}$ .

24. Find the matrix product:

$$\begin{bmatrix} 2 & 5 \end{bmatrix} \begin{bmatrix} 1 & -1 \\ 2 & 3 \end{bmatrix}$$

25. By solving, determine whether the given matrix is singular or non-singular:

$$\begin{bmatrix} -1 & 3 \\ 1 & -3 \end{bmatrix}$$

26. If  $A = \begin{bmatrix} 2 & 5 \\ 6 & 8 \end{bmatrix}$ , then find  $\det(A)$ .

27. Solve:  $3x + 3(x + 1) = 69$ .

28. Solve the inequality:  $x - 7 \leq 5 - 2x$ .

29. Solve:  $|x - 3| = 5$ .

30. Solve by using the factorization method:  $5x^2 - 6x - 8 = 0$ .

31. Find the matrix product of:

$$\begin{bmatrix} -3 & 2 \\ 4 & -1 \end{bmatrix} \begin{bmatrix} -1 & 5 \\ -1 & 3 \end{bmatrix}$$

32. If  $A = \begin{bmatrix} -1 & 2 \\ -3 & -4 \end{bmatrix}$ , then evaluate  $\det(A)$ .

33. Solve:  $9x - 3 = 3(2x - 8)$ .

34. Solve:  $|2x - 3| = 5$ .

35. Solve:  $9x - 3 = 3(2x - 8)$

36. Solve:  $3x + 3(x + 1) = 69$

37. Solve by using factorization method:  $x^2 - 4x + 12 = 0$

38. Solve the inequality:  $\frac{1}{3}x > \frac{1}{4}(x - 1)$



39. Solve:  $2x^2 = 3x$

40. Solve:  $|2x - 3| = 5$

41. If  $A = \begin{bmatrix} 2 & 3 \\ 1 & 5 \end{bmatrix}$ ,  $B = \begin{bmatrix} 1 & 7 \\ 4 & 6 \end{bmatrix}$ , then show that:  $3B - 3A = 3(B - A)$

42. Solve:  $2x = \frac{2}{x} + 3$

43. Find the determinant of  $A = \begin{bmatrix} 5 & 2 \\ 10 & 4 \end{bmatrix}$

44. Find the matrix product:  $\begin{bmatrix} 2 & 5 \end{bmatrix} \times \begin{bmatrix} 1 & -1 \\ 2 & 3 \end{bmatrix}$

45. Solve:  $0.3x + 0.4 = 0.28x + 1.16$

46. Solve:  $3(x - 2) < 2x + 1$

47. If  $A = \begin{bmatrix} 3 & 4 \\ -1 & 4 \end{bmatrix}$ , find the transpose of  $A$ .



48. Solve:  $|x + 1| - 5 = 0$

49. If  $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$ , then what is the additive inverse of  $A$ ?

50. If  $A = \begin{bmatrix} 1 & 3 \\ 4 & 5 \end{bmatrix}$ ,  $B = \begin{bmatrix} 4 & 7 \\ 6 & 5 \end{bmatrix}$ , then find  $A + B$ .

51. Find the transpose of  $B = \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{bmatrix}$ .

52. Solve by using the factorization method:  $3x^2 - 8x - 3 = 0$ .

53. Solve  $5x = x^2 + 6$ .



54. Find the matrix product:

$$\begin{bmatrix} -3 & 2 \\ 4 & -1 \end{bmatrix} \times \begin{bmatrix} -1 & 5 \\ -1 & 3 \end{bmatrix}$$

55. Solve  $(2x + 1)(5x - 4) = 0$ .

56. Define a linear equation in one variable. Solve  $3(2x + 5) = 25 + x$ .

57. Find the transpose of:

$$C = \begin{bmatrix} a & -b \\ c & d \end{bmatrix}$$

58. Solve  $|2x - 3| = 5$ .

59. Solve the inequality  $x - 7 \leq 5 - 2x$ .

60. Find  $x$  and  $y$  if:



$$\begin{bmatrix} x + 3 & 1 \\ -3 & 3y - 4 \end{bmatrix} = \begin{bmatrix} 2 & 1 \\ -3 & 2 \end{bmatrix}$$

61. Solve  $3x + 20 = 44$ .

62. Verify whether the given matrix is singular or non-singular:

$$\begin{bmatrix} -a & b \\ a & b \end{bmatrix}$$

63. Solve  $|x + 1| = 5$ .

64. Solve by using the factorization method:  $5x = x^2 + 6$ .


65. Solve  $3(2x + 5) = 25 + x$ .

66. Define a linear equation.

## Most Important Short Questions

## (Chapters 7, 8,9 and 10)

Here is the extracted text with proper numbering from 1 onwards, with a shuffled order of questions:

1. Find the volume of a cube with a side of 4 cm.
2. Find the distance between the points (2,1) and (-4,3).
3. Find the third side of each right triangle with legs  $a$  and  $b$ , and hypotenuse  $c$ :  
 $a = 3, b = 4, c = ?$
4. Locate the point (-8, -8) on the number plane.
5. Construct a  $\triangle ABC$  in which  $m\angle A = 60^\circ, m\angle B = 30^\circ$ , and  $AB = 6$  cm.
6. Find the volume of a cubical box with lengths 4 m, breadth 3 m, and height 2 m.
7. Write down the angles marked with letters in the  diagram. State whether the angles are complementary or supplementary.
8. The sides of a right triangle are 3 cm and 4 cm. Find the hypotenuse.
9. Locate the point (7, -5) in the coordinate plane.
10. Describe the location of the point (0,4) on the number line.
11. Find the value of  $x$  in the given triangle.
12. Find the volume of a sphere with a radius of 3.5 cm.
13. Find the area of an equilateral triangle whose side is 8 m.

14. Find the volume of a cube whose each side is 4 cm.

15. Find the distance between pairs of points: (2,1), (-4,3).

16. Draw a semi-circle with diameter 4 cm at center O.

17. Write down the angles marked with letters in the given diagram.

18. Find 'a' and 'b' in the given diagram.

19. Look at the given figures and answer the following questions:

a) Pairs of corresponding angles

b) Pairs of vertical angles

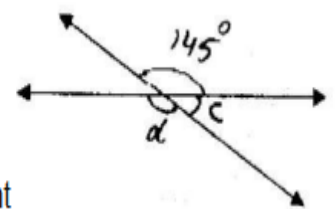
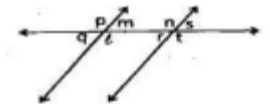
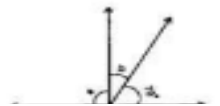
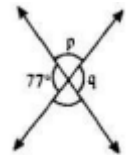
20. Draw an equilateral triangle with a side length of 6 cm.

21. Find the distance between the pair of points (7,-2) and (-2,3).

22. Describe the location of the point (7, -5) on the number plane.

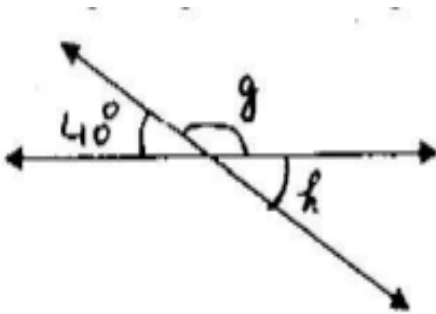
23. Write the angles marked with letters in the given diagram.

24. If 30, 72, 78 represent the lengths of the sides of a triangle, determine if the triangle is a right triangle.





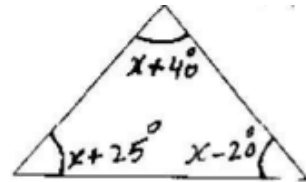
25. Write a Hero's formula.
26. Find the third side of a right triangle with hypotenuse 'C' where  $a = 5$ ,  $c = 13$ , and find B.
27. Locate (3, 6) in the coordinate plane.
28. Name the following triangles:
- (i) A triangle with all three sides equal in length.
- (ii) A triangle where none of the sides are equal.
29. Find the distance between the points (a, -b) and (b, -a).
30. Two angles are supplementary, and one angle is smaller by  $30^\circ$ . Find the measures of both angles.
31. Describe the location of the point (7, -5) on the number plane.
32. Find the hypotenuse of a right isosceles triangle whose legs are "L".
33. Find the distance between the pairs of points: (-1,3) and (-2,-1).
34. Find the distance between the pairs of points: (7,-2) and (-2,3).
35. Check if the given triangle with sides 30, 72, and 78 is a right-angled triangle.
36. Write down the formula for the volume of a right circular cylinder.
37. Find the hypotenuse of a right isosceles triangle whose legs are 8 cm.
38. Look at the given figure and find angles 'g' and 'h'.



39. Find the area of a triangle whose sides are 5, 12, and 13.

40. Find the value of  $x$  in the given triangle.

(Image of a triangle with angles expressed in terms of  $x$  is provided.)



41. Find the hypotenuse of a right isosceles triangle, each of whose legs is  $L$ .

42. If **30**, **72**, **78** represent the lengths of the sides of a triangle, is the triangle a right triangle?

43. Draw a circle of radius **2.5 cm** with center at **O**.

44. Find the third side of a right-angled triangle where **c** is the hypotenuse:

- **Given:**  $a = 5$ ,  $c = 13$ , find **b**.

45. Describe the location of this point on the number plane: **(0, 4)**.

## MOST IMPORTANT DEFINATIONS

- Define semi-circle.
- Define concyclic points.
- Write the general form of a quadratic equation.
- Define Improper Rational expressions.
- Write any two properties of parallel lines.
- Define Linear Polynomial and give an example.
- Define square matrix and give an example.
- Define Factorization.
- By how many methods can we solve a quadratic equation? Name them.
- How many types of Algebraic Expressions are there? Name them.
- Define Angle and draw its figure.
- What is the zero of a polynomial?
- Define the radius of a circle and draw its figure.
- Define L.C.M.
- Define the current of a wire and draw a diagram.
- Define "Congruent Polygons."
- Explain the transitive property of inequality.
- Define a quadratic equation.
- Define symmetric and skew symmetric matrices.
- Define the trichotomy property.
- Write the names of any two methods for solving a quadratic equation.
- Define a singular matrix.
- Explain the associative property of numbers.
- What is the law of trichotomy?
- Define a zero matrix with an example.
- Define a scalar matrix and give an example.

- Write a quadratic equation in one variable.
- Define collinear points.
- Define a right angle.
- Define a sector and draw a diagram.
- Define the tangent of a circle.
- Define the medians of a triangle.
- Define rational numbers with an example.
- Define a quadratic polynomial.
- Write the factor theorem.
- Define H.C.F. (Highest Common Factor).
- Define pure surds with an example.
- Explain the Remainder Theorem.
- Define a rational expression.
- Define a linear polynomial.
- Define irrational numbers and give an example.
- Define a straight angle.
- Define congruent figures.
- Describe the Pythagoras theorem.
- Define a parallelogram.
- Define a cuboid and write the formula for its volume.

## **MOST IMPORTANT LONG QUESTIONS CHAPTER 1,2**

1. Simplify:

$$\frac{x^2 - 1}{x^2 + x + 2} \times \frac{x^3 + 8}{x^4 + 4x^2 + 16} \div \frac{x^2 + 1}{x^3 + 2x^2 + 4x}$$

2. If  $x = 2 + \sqrt{3}$ , then find the values of:

(i)  $x - \frac{1}{x}$

(ii)  $x^2 + \frac{1}{x^2}$

3. Find the L.C.M. by factorization of  $x^3 + 64$  and  $x^2 - 16$ .

4. If  $x = \sqrt{3} - \sqrt{2}$ , then find the values of  $x - \frac{1}{x}$  and  $x^2 + \frac{1}{x^2}$ .

5. If  $\frac{1}{p} = \sqrt{10} + 3$ , then evaluate  $\left(p - \frac{1}{p}\right)^2$ .

6. If  $x = 2 + \sqrt{3}$ , then find the values of  $x - \frac{1}{x}$  and  $x^2 + \frac{1}{x^2}$ .

7. Find the H.C.F by division method:

$$x^4 + x^2 + 1, x^4 + x^3 + x + 1$$

8. Find L.C.M by Factorization:

$$2x^2 + 5x + 3, x^2 + 2x + 1, 2x^2 + 9x + 9$$



9. Find HCF by division method:

$$x^3 + 7x^2 + 12x, x^3 - 2x^2 - 15x$$

10. The product of two polynomials and their L.C.M are

$$x^4 + 5x^3 - x^2 - 17x + 12 \text{ and}$$

$$x^3 + 6x^2 + 5x - 12 \text{ respectively.}$$

Find their H.C.F.

11. If  $x = \sqrt{3} - \sqrt{2}$ , then find the value of

$$x^2 + \frac{1}{x^2}.$$

12. If  $\frac{1}{p} = \sqrt{10} + 3$ , then evaluate

$$\left(p - \frac{1}{p}\right)^2.$$

13. Find the value of  $a^2 + b^2 + c^2$  if

$$ab + bc + ca = 11 \text{ and } a + b + c = 6.$$



14. Find HCF by division method:

$$x^2 + 3x - 4, x^3 - 2x^2 - 2x + 3.$$

15. Find L.C.M by Factorization:

$$1 - y^2, y^3 + 1, 1 - y - 2y^2.$$

16. Find the value of  $x^3 + y^3$  if  $xy = 10$  and  $x + y = 7$ .

17. If  $x^4 + \ell x^3 + mx^2 + 12x + 9$  is a complete square, then find the values of  $\ell$  and  $m$ .

18. Simplify:

$$\frac{x^2 - 4x + 4}{x^2 - 4} \div \frac{x}{x - 2}.$$

## **MOST IMPORTANT LONG QUESTIONS CHAPTER 3,4**

1. Solve:  $\frac{x+3}{x^2} - \frac{x+2}{x^4} < 1 + \frac{x+5}{x^6}$ .
2. Factorize:  $x^{12} - y^{12}$ .
3. Resolve into factors:  $z^4 + 6y^4$ .
4. Solve and check:  $x + \sqrt{x-4} = 4$ .
5. If  $P(x) = 3x^3 + kx - 26$  is divided by  $x - 2$ , find  $k$ , if the remainder is 0.
6. Factorize:  $6x^7 - x^6$ .
7. Solve:  $x = 15 - 2\sqrt{x}$ .
8. Resolve into factors:  $x^7 + y^7 + 2xy - 4x^2y^2$ .
9. Solve:  $\sum(2x + 3) \geq 10 - \frac{x}{4}$ .
10. Resolve into factors:  $x^4 + 324$ .
11. Solve and check:  $\frac{x^4-x^3}{x+1} = \frac{x^3-x^2}{x+1} + 1$ .
12. Factorize:  $m^6 - n^6$ .
13. Solve:  $6 - y + 6\sqrt{y} = 0$ .
14. Solve:  $x = \frac{1}{8} \leq \frac{8}{x}$ .
15. If  $P(x) = x^n - kx^7 + 3x + 5$  is divided by  $x - 1$ , find  $k$  if the remainder is 8.
16. Solve:  $m - 13 = \sqrt{m} + 7$ .
17. Factorize:  $2m^6 - n^6$ .



## **MOST IMPORTANT LONG QUESTIONS CHAPTER 5,8**

1. Solve by completing the square method:

$$x^2 - 10x - 3 = 0$$

2. Solve using quadratic formula:

$$(3 - 4x) = (4x - 3)^2$$

3. Use Cramer's rule to solve the simultaneous equations:

$$2x - 3y = 9$$

$$x + \downarrow = 2$$

4. Solve the simultaneous equations using the matrix inversion method:

$$3x - 2y = 10$$

$$8x - 3y = -4$$

5. Solve by completing the square method:

$$10x^2 - 5x = 15$$

6. Solve using the quadratic formula:

$$x^2 - 10x - 3 = 0$$

7. Given that  $A = \begin{bmatrix} 2 & 1 \\ -1 & 3 \end{bmatrix}$ , verify that  $A^2 - 4A + 5I = 0$ .

8. Solve using quadratic formula:

$$1 - [1(3x - 3)] = 12 - 0$$

9. Find the matrix product:



$$\begin{bmatrix} 2 & -1 \\ -5 & -1 \end{bmatrix} \times \begin{bmatrix} -3 & 2 \\ 1 & 0 \end{bmatrix}$$

10. If  $A = \begin{bmatrix} 3 & -2 \\ 4 & 5 \end{bmatrix}$  and  $B = \begin{bmatrix} -2 \\ 0 \end{bmatrix}$ , then show that  $A + B = \begin{bmatrix} 8 & -2 \\ 4 & 2 \end{bmatrix}$ .

11. Solve the system using the matrix inversion method:

$$3x + 2y = 10$$

$$8x - 3y = -4$$

12. Solve using the inversion method and state when the solution is not possible:

$$x + 2y + z = 1$$

$$4x + y \downarrow = 14$$

13. If  $A = \begin{bmatrix} 6 & 2 \\ 3 & 1 \end{bmatrix}$ , then find the value of  $A^{-1}$ .

14. If  $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$ , then verify that:

$$(\text{adj}A)A = |A|I$$

## **MOST IMPORTANT LONG QUESTIONS CHAPTER 6**

1. Construct a rectangle whose adjacent sides are 4 cm and 3 cm.
2. Construct a square whose one side is 3.5 cm.
3. Construct a rectangle with width 10 cm and 6 cm.
4. Construct a triangle whose sides are 5, 12, and 13 cm.
5. Find the area of a triangle whose sides are 5, 12, and 13.
6. Draw an equilateral triangle with a length of each side as 6 cm. Draw its altitudes.
7. In a right triangle  $\triangle ABC$ ,  $m\angle B = 90^\circ$ ,  $AB \downarrow 3$  cm, and  $BC = 4$  cm with right angle at B. Draw a circle through A, B, and C.
8. Solve the equations by matrix inverse method:

$$2x + 5y = 9$$

9. Use Cramer's rule to solve the following linear equations:

$$x + 3y = 6.2x + y = 4$$

10. Use Cramer's rule to solve simultaneous equations:

$$5x - 2y = 13$$

$$2x - y = 7$$

11. Solve using matrix inverse method:

$$5x + 6y = 25, \downarrow 5x + 4y = 17$$

12. Find the inverse of the given matrix  $A$  and show that  $A^{-1}A = I$ , where

$$A = \begin{bmatrix} 2 & 1 \\ 4 & 3 \end{bmatrix}$$

13. If

$$A = \begin{bmatrix} 2 & 1 \\ 4 & 3 \end{bmatrix}$$


then verify that  $A^{-1}A = I$ .

14. If

$$B = \begin{bmatrix} 2 & 1 \\ 4 & 3 \end{bmatrix}$$

then verify that  $(ABC)^{-1} = C^{-1}B^{-1}A^{-1}$ .

## **MOST IMPORTANT LONG QUESTIONS CHAPTER 9,10**

1. Show that the points A(0,2), B(3,-2), and C(0,-2) are vertices of a right triangle.
2. A ladder 17 m long when set against the wall of a house just reaches a window at a height of 15 m from the ground. How far is the lower end of the ladder from the base of the wall?
3. Find the volume of a cone with a radius of base 3 m and height 10 m.
4. Find the area of a right triangle with legs 12 cm and 35 cm.
5. Show that the points A(-2,11), B(-6,-3), and C(4,-9) are of a scalene triangle.
6. Show that the points A(6,1), B(2,7), and C(-6,-7) are vertices of a triangle.
7. Prove that the points A(-1,1), B(3,2), and C(7,3) are collinear.
8. Show that the points A(4,-2), B(-2,4), and C(5,5) are vertices of an isosceles triangle.
9. Find the area of an equilateral triangle whose side is 8 m.
10. A rectangular box with length 8 m, breadth 3 m, and height 2 m. Find the volume of the box.
11. Show that the points A(4,1), B(2,7), and C(-6,-7) are of a scalene triangle.
12. Find the area of a room 5.4 m in length and 3.8  in width. What is the cost of carpeting the room if the rate of carpet is Rs. 1500 per 9 m<sup>2</sup>?