Linear Equations in Two Variables

MCQ Questions

1. The linear equation 3x-11y=10 has:
a) Unique solution
b) Two solutions
c) Infinitely many solutions
d) No solutions

2. 3x+10 = 0 will has:
a) Unique solution
b) Two solutions
c) Infinitely many solutions
d) No solutions

3. The solution of equation x-2y = 4 is:
a) (0,2)
b) (2,0)
c) (4,0)
d) (1,1)

4. The value of k, if x = 1, y = 2 is a solution of the equation 2x + 3y = k.
a) 5
b) 6
c) 7
d) 8

5. Point (3, 4) lies on the graph of the equation 3y = kx + 7. The value of k is:

a) 4/3
b) 5/3
c) 3
d) 7/3

6. The graph of linear equation x+2y = 2, cuts the y-axis at:

a) (2,0)
b) (0,2)
c) (0,1)
d) (1,1)

7. Any point on the line x = y is of the form:

a) (k, -k)
b) (0, k)
c) (k, 0)
d) (k, k)

8. The graph of x = 3 is a line:

a) Parallel to x-axis at a distance of 3 units from the origin
b) Parallel to y-axis at a distance of 3 units from the origin
c) Makes an intercept 3 on x-axis
d) Makes an intercept 3 on y-axis

9. In equation, y = mx + c, m is:

a) Intercept
b) Slope of the line
c) Solution of the equation
d) None of the above

10. If x and y are both positive solutions of equation ax + by + c = 0, always lie in:

a) First quadrant
b) Second quadrant
c) Third quadrant
d) Fourth quadrant

1(c)	2(a)	3(c)	4(d)	5(b)	6(c)	7(d)	8(b)	9(b)	10(a)

Case Study 1

A test consists of 'True' or 'False' questions. One mark is awarded for every correct answer while ¼ mark is deducted for every wrong answer. A student knew answers to some of the questions. Rest of the questions he attempted by guessing. He answered 120 questions and got 90 marks.

Based on the above information, answer the following questions:

Type of Question	Marks given for correct answer	Marks deducted for wrong answer
True/False	1	0.25

1. If answer to all questions he attempted by guessing were wrong, then how many questions did he answer correctly?

a) 95
b) 96
c) 97
d) 98

2. How many questions did he guess?

a) 25
b) 26
c) 24
d) 22

3. If answer to all questions he attempted by guessing were wrong and answered 80 correctly, then how many marks he got?

a) 50
b) 60
c) 70
d) 80

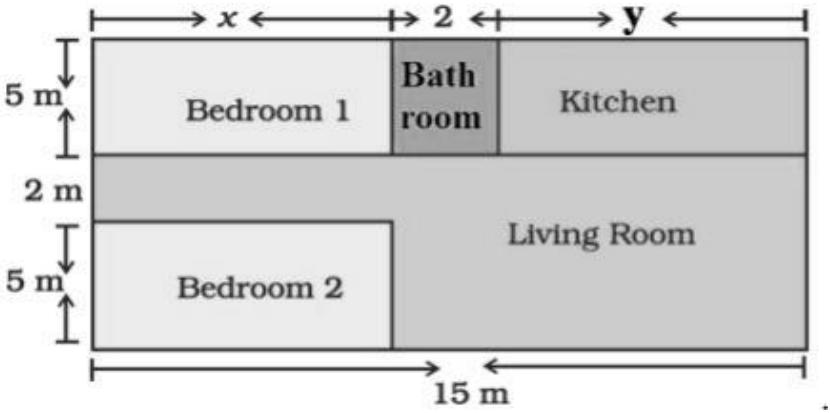
4. If answer to all questions he attempted by guessing were wrong, then how many questions answered correctly to score 95 marks?

a) 100
b) 500
c) 120
d) 95

1(d)	2(c)	3(c)	4(a)

Case Study 2

Amit is planning to buy a house and the layout is given below. The design and the measurement has been made such that areas of two bedrooms and kitchen together is 95 sq.m.



Based on the above information, answer the following questions:

1. Form the pair of linear equations in two variables from this situation.

a) $x + y = 13$
b) $2x + y = 13$
c) $x + 2y = 13$
d) $2x + 2y = 13$

2. Find the length of the outer boundary of the layout.
a) 55
b) 56
c) 57
d) 54

3. Find the area of each bedroom and kitchen in the layout.
a) 35m, 30m
b) 33m, 50m
c) 30m, 35m
d) 50m, 33m

4. Find the area of living room in the layout.
a) 95
b) 75
c) 77
d) 78

5. Find the cost of laying tiles in kitchen at the rate of Rs. 50 per sq.m.
a) 1795
b) 1760
c) 1750
d) 1780

1(a)	2(d)	3(c)	4(b)	5(c)

ASSERTION & REASONING QUESTIONS

DIRECTION : 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.

1. Assertion : A linear equation $3x + 5y = 2$ has a unique solution.

Reason : A linear equation in two variables has infinitely many solutions.

2. Assertion : If $x = 2$, $y = 1$ is a solution of the equation $2x + 3y = k$, then the value of k is 7.

Reason : The solution of the line will satisfy the equation of the line.

3. Assertion : If $x = 2k – 1$ and $y = k$ is a solution of the equation $3x – 5y – 7 = 0$, then the value of k is 10 Reason : A linear equation in two variables has infinitely many solutions.

4. Assertion : There are infinite number of lines which passes through (3, 2).

Reason : A linear equation in two variables has infinitely many solutions.

5. Assertion: $x = 3$ and $y = 2$ is a solution of the linear equation $2x + 3y = 12$.

Reason: $x = 4$ and $y = 2$ is a solution of the linear equation $x + 3y = 10$.

6. Assertion : The point (3, 0) lies on the graph of the linear equation $4x + 3y = 12$.

Reason : (3, 0) satisfies the equation $4x + 3y = 12$

7. Assertion : The graph of the linear equation $2x – y = 1$ passes through the point (2, 3). Reason : Every point lying on graph is not a solution of $2x – y = 1$.

8. Assertion: $x = 2$ is a line parallel to the y-axis.

Reason: The equation of a line parallel to the y-axis is $x = a$.

9. Assertion: $x + y = 3$ is the equation of a line passing through the origin.

Reason: $y = 2x$ is the equation of a line passing through the origin.

10. Assertion: $y = 3x$ represents a line passing through the origin.

Reason: Any line parallel to the x-axis is $y = a$.

1(d)	2(a)	3(b)	4(b)	5(b)	6(a)	7(c)	8(a)	9(d)	10(b)