

Q.1. A) Solve Multiple Choice questions**(1 mark each)****4 M**

1. If two dice are thrown simultaneously then the probability of getting a prime number on both dice is

- (A) $\frac{5}{18}$ (B) $\frac{2}{9}$ (C) $\frac{1}{3}$ (D) $\frac{1}{4}$

2. What are the coordinates of the point of intersection of the lines?

$$x + 3y = 7 \text{ and } 2x + y = -1?$$

- (A) (2,-3) (B) (-2, 3) (C) (2, 3) (D) (-2,-3)

3. What is the nature of the root of the quadratic equation: $4m^2 - 8m + 9 = 0$?

- (A) Real (B) Not Real
(C) Real and equal (D) Real and unequal

4. The first term of an A.P is 2 and the n^{th} term is 41. What is the value of n, if $S_n=860$?

- (A) 30 (B) 31 (C) 41 (D) 40

Q.1. B) Solve the following**(1 mark each)****4 M**

1. Find the value of the discriminant of the equation $x^2 + 10x - 7 = 0$

2. For simultaneous equations in variables x and y , $D_x = 49$, $D_y = -63$, $D = 7$ then what is x and y ?

3. Three coins are tossed simultaneously. Write the sample space.

4. Find the next two terms of A.P 5, 12, 19, 26,...

Q.2. A) Complete 2 activities out of 3**(2 marks each)****4 M**

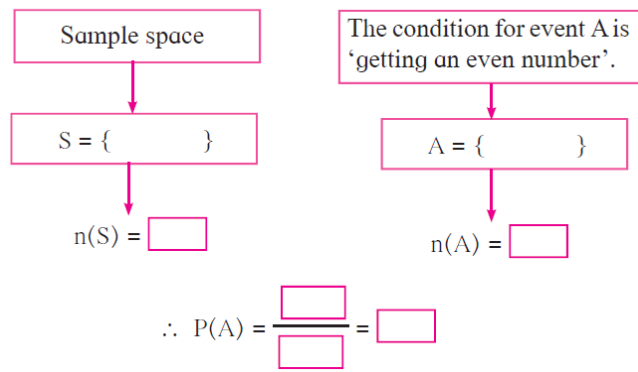
1. Complete the activity.

$$-3, -8, -13, -18, \dots$$

Here $t_3 = \square$, $t_2 = \square$, $t_4 = \square$, $t_1 = \square$,

$$t_2 - t_1 = \square, t_3 - t_2 = \square \quad \therefore a = \square, d = \square$$

2. A die is thrown.
Complete the adjacent activity.



3. Fill in the boxes with correct number.

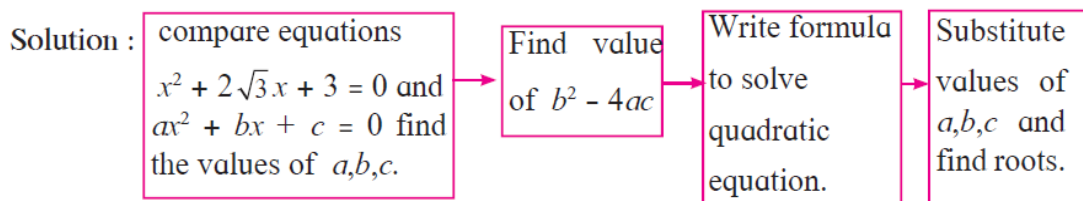
$$\begin{vmatrix} 3 & 2 \\ 4 & 5 \end{vmatrix} = 3 \times [] - [] \times 4 \\ = [] - 8 = []$$

Q.2. B) Solve Any 4 out of 5 (2 marks each) 8 M

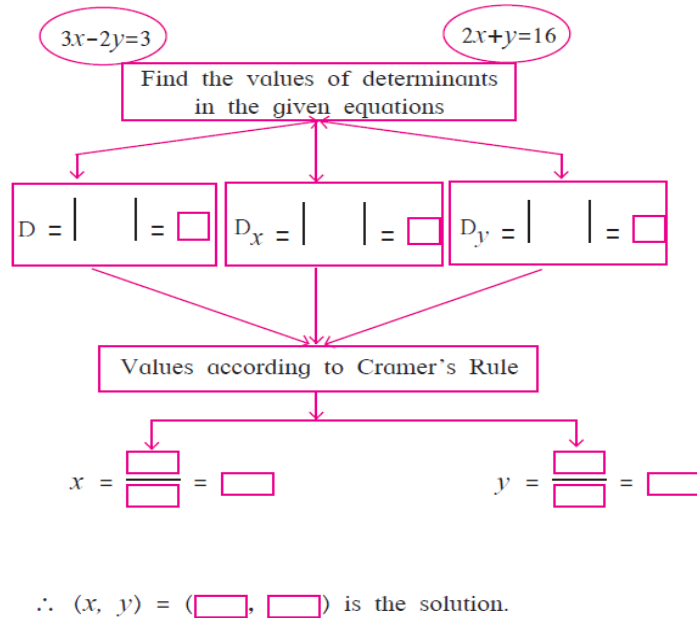
- Form a quadratic equation if its roots are $\frac{1}{2}$ and $\frac{-3}{4}$.
- In an A.P the 10th term is 46, sum of the 5th and 7th term is 52. Find the A.P.
- Two dice are tossed. Find the probability
 - Sum of the digits on upper face is a prime number.
 - Digits on the upper face of the first die is less than the digit on the second die.
- Solve by factorization: $4q^2+5q+1=0$
- The perimeter of rectangle is 40cm. The length of the rectangle is more than double its breadth by 2 finds the length and breadth.

Q.3. A) Complete 1 activity out of 2 (3 marks each) 3 M

1. With the help of the flow chart given below solve the equation $x^2 + 2\sqrt{3}x + 3 = 0$ using the formula.



2. Complete the activity.



Q.3. B) Solve Any 2 out of 4

(3 marks each)

6 M

1. Find how many three digit natural numbers are divisible by 5.

2. Sum of the roots of a quadratic equation is double their product. Find k if equation is $x^2 - 4kx + k + 3 = 0$

3. A card is drawn at random from a pack of well shuffled 52 playing cards. Find the probability that the card drawn is –
 - i) a spade ii) Ace card iii) Red card

4. The denominator of a fraction is 4 more than twice its numerator. Denominator becomes 12 times the numerator, if both the numerator and the denominator are reduced by 6. Find the fraction.

Q.4) Solve Any 2 out of 3

(4 marks each)

8 M

1. A two digit number is formed with digits 0, 1, 2, 3, 4, 5 without repetition. What is the probability that the number formed is
 - (i) an odd number (ii) a multiple of 5 (iii) a prime number
 - (iv) number formed is greater than 50.

2. In an A.P. sum of three consecutive terms is 27 and their product is 504, find the terms.

3. Draw graphs of $x + y = 4$, $2x - y = 2$ also find the area of triangle formed by the intersection of these two lines.

Q.5) Solve Any 1 out of 2

(3 marks each)

3 M

1. If 460 is divided by a natural number, quotient is 6 more than five times the divisor and remainder is 1. Find quotient and divisor.

2. Kargil's temperature was recorded in a week from Monday to Saturday. All readings were in A.P. The sum of temperatures of Monday and Saturday was 5°C more than sum of temperatures of Tuesday and Saturday. If temperature of Wednesday was -30°C then find the temperature on the other five days.

Chapter wise weightage *		
Chp No	Chapter Name	Total Marks
1	Linear Equation	16
2	Quadratic Equation	15
3	Arithmetic Progression	16
4	Financial Planning	-
5	Probability	13
6	Statistics	-
		60

* As per reduced syllabus 2020 – 2021

*Note: Ch 4 and Ch 6 is completely omitted