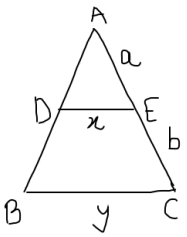
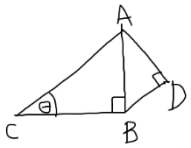
Sample Question Paper
Class- X Session- 2021-22
TERM 1
Subject- Mathematics (Basic)

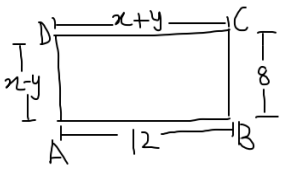
Time Allowed: 90 minutes **Maximum Marks: 40**

General Instructions:

1. The question paper contains three parts A, B and C.
2. Section A consists of 20 questions of 1 mark each. Attempt any 16 questions.
3. Section B consists of 20 questions of 1 mark each. Attempt any 16 questions.
4. Section C consists of 10 questions based on two Case Studies. Attempt any 8 questions.
5. There is no negative marking.

	SECTION A	
	Section A consists of 20 questions. Any 16 questions are to be attempted	
Q.NO.		**MARKS**
1	A box contains cards numbered 6 to 50. A card is drawn at random from the box. The probability that the drawn card has a number which is a perfect square like 4,9….is (a) 1/45 (b) 2/15 (c) 4/45 (d) 1/9	**1**
2	In a circle of diameter 42cm ,if an arc subtends an angle of 60 ˚ at the centre where ∏=22/7,then the length of the arc is (a) 22/7 cm (b) 11cm (c) 22 cm (d) 44 cm	**1**
3	If sinϴ = *x* and secϴ = *y* , then tanϴ is *(a) xy* *(b) x/y* *(c) y/x* (d) *1/xy*	**1**
4	The pair of linear equations *y* = 0 and *y* =-5 has (a) One solution (b) Two solutions (c) Infinitely many solutions (d) No solution	**1**
5	A fair die is thrown once. The probability of even composite number is (a) 0 (b) 1/3 **(c)** 3/4 **(d) 1**	**1**
6	8 chairs and 5 tables cost Rs.10500, while 5 chairs and 3 tables cost Rs.6450. The cost of each chair will be (a) Rs. 750 (b) Rs.600 (c) Rs. 850 (d) Rs. 900	**1**
7	If cosϴ+cos^{2}ϴ =1,the value of sin^{2}ϴ+sin^{4}ϴ is (a) -1 (b) 0 (c) 1 (d) 2	**1**

8	The decimal representation of $\frac{23}{2^3 \times 5^2}$ will be (a) Terminating (b) Non-terminating (c) Non-terminating and repeating (d) Non-terminating and non-repeating	**1**
9	The LCM of 2^3X3^2 and 2^2X3^3 is (a) 2^3 (b) 3^3 (c) 2^3X3^3 **(d)** 2^2X3^2	**1**
10	The HCF of two numbers is 18 and their product is 12960. Their LCM will be (a) 420 (b) 600 (c) 720 **(d)** 800	**1**
11	In the given figure, DE II BC. Which of the following is true?  (a) $x = \frac{a+b}{ay}$ (b) $y = \frac{ax}{a+b}$ (c) $x = \frac{ay}{a+b}$ **(d)** $\frac{x}{y} = \frac{a}{b}$	**1**
12	The co-ordinates of the point P dividing the line segment joining the points A (1,3) and B (4,6) internally in the ratio 2:1 are (a) (2,4) (b) (4,6) (c) (4,2) (d) (3,5)	**1**
13	The prime factorisation of 3825 is (a) $3x5^2x21$ (b) 3^2x5^2x35 (c) 3^2x5^2x17 **(d)** $3^2x25x17$	**1**
14	In the figure given below, AD=4cm,BD=3cm and CB=12 cm, then cotΘ equals  (a) 3/4 (b) 5/12 (c) 4/3 **(d)** 12/5	**1**

15	If ABCD is a rectangle , find the values of x and y  (a) X=10,y=2 (b) X=12,y=8 (c) X=2,y=10 **(d)** X=20,y=0	**1**
16	In an isosceles triangle ABC, if AC=BC and $AB^2=2AC^2$, then the measure of angle C will be (a) 30˚ (b) 45˚ **(c)** 60˚ (d) 90˚	**1**
17	If -1 is a zero of the polynomial $p(x)=x^2-7x-8$, then the other zero is (a) -8 (b) -7 (c) 1 (d) 8	**1**
18	In a throw of a pair of dice, the probability of the same number on each die is (a) 1/6 (b) 1/3 (c) 1/2 (d) 5/6	**1**
19	The mid-point of (3p,4) and (-2,2q) is (2,6) . Find the value of p+q (a) 5 (b) 6 (c) 7 (d) 8	**1**
20	The decimal expansion of $\frac{147}{120}$ will terminate after how many places of decimals? (a) 1 (b) 2 (c) 3 **(d)** 4	**1**
	SECTION B	
	Section B consists of 20 questions of 1 mark each. Any 16 questions are to be attempted	
21	The perimeter of a semicircular protractor whose radius is 'r' is (a) π + 2r (b) π + r (c) πr (d) πr + 2r	**1**
22	If P (E) denotes the probability of an event E, then (a) $0< P(E) \leqslant 1$ (b) $0 < P(E) < 1$ (c) $0 \leq P(E) \leq 1$ (d) $0 \leqslant P(E) < 1$	**1**