DEPARTMENT OF GENERAL EDUCATION

DIET ERNAKULAM

VAIBHAVAM 2021
S.S.L.C ACADEMIC SUPPORT

T20 Answer Key-MATHEMATICS

Time : 45 min.
Score : 20

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1. Ans: c). (0, -2) (1 Mark)

2 Ans: 7/10 (1 Mark)

3. Ans: Method-1: sequence of x coordinates and y coordinates are in arithmetic sequences. So (8,5) is a point on this line. (2 Marks)

Method-2: Slope of the line= 3-1/5-1 =2/3.Again using points (2,1) and (8,5) slope=5-1/8-2=4/6=2/3.Slopes are same. So (8,5) is a point on this line.

4. a).The co-ordinate of D, the fourth vertex is D(2,3) (1 Mark)

b). Ans: Diagonals of a parallelogram meet at their midpoints.

Mid Point of diagonal AC=(3,2) (1Mark)

5. a).Ans:(1,6) and (5,3) (1Mark)

b).The length of its diagonal=$\sqrt{25}$=5 (2 marks)

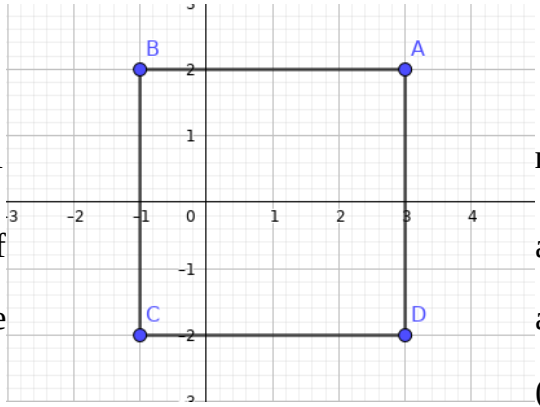
6. a).getting an odd number. Ans: 10/20=1/2 (1 Mark)

b).getting an even number. Ans: 10/20=1/2 (1 Mark)

c).the number is a multiple of 3. Ans:6/20 (1 Mark)

7. a).A (3, 2), B (-1, 2), C (-1, -2), D (3, -2) (1 mark)

b). polygon ABCD

(1 

mark)

c). Ans: Lengths of all sides =4 and sides are parallel to the axes. So it is a square (2 Marks)

8. (1, 4) and (3, 7) are two points on a line.

a). Ans: Slope=7-4/3-1=3/2 (1Mark)

b). The equation of the line. y-4/x-1=3/2, 3(x-1)=2(y-4) ,3x-3=2y-8

3x-2y+5=0 (2 marks)

c).Ans : Whenx=4,3×4-2y+5=0,2y=17,y=8½Point(4,8½) (1 Mark)

9. a) Ans : Let the vertices are A(-2,4),B(5,3) and C(2,7).

AB=√50,BC=√25=5 and AC=√25=5. Two sides are equal. (3 Marks)

b). Ans:The ratio of the sides is 1:1:√2. So it is a right angled isosceles triangle

Area=1/2×5×5=12½ (2 Marks)

10. In class 10 A there are 12 girls and 8 boys. In 10 B there are 20 girls and 10 boys. If one from each class is selected,

a). Ans: 10 A has the probability 12/20=3/5 and 10B has 20/30=2/3.

So 10B has more probability (1 Mark)

b). The probability of both being girls ?

Ans=12x20 / 20x30=240/600 (2 Marks)

c). The probability of getting at least one girl ?

Ans :(12x20)+(12x10)+(8x20) / 20x30=520/600 (2 Marks)