

EINSTEIN'S ACADEMY

10TH MATHS

UNIT-5

I choose the correct answer

$$1 \times 10 = 10$$

1. The straight line given by the equation $x = 11$ is
 - (A) parallel to X axis
 - (B) parallel to Y axis
 - (C) passing through the origin
 - (D) passing through the point (0,11)
2. The area of triangle formed by the points (-5,0) , (0,-5) and (5,0) is
 - (A) 0 sq.units
 - (B) 25 sq.units
 - (C) 5 sq.units
 - (D) none of these
3. When proving that a quadrilateral is a parallelogram by using slopes you must find
 - (A) The slopes of two sides
 - (B) The slopes of two pair of opposite sides
 - (C) The lengths of all sides
 - (D) Both the lengths and slopes of two sides
4. A man walks near a wall, such that the distance between him and the wall is 10 units.
Consider the wall to be the Y axis. The path travelled by the man is
 - (A) $x = 10$
 - (B) $y = 10$
 - (C) $x = 0$
 - (D) $y = 0$
5. The slope of the line which is perpendicular to a line joining the points (0,0) and (-8,8) is
 - (A) -1
 - (B) 1
 - (C) $\frac{1}{3}$
 - (D) -8
6. If (5,7), (3,p) and (6,6) are collinear, then the value of p is
 - (A) 3
 - (B) 6
 - (C) 9
 - (D) 12
7. The point of intersection of $3x - y = 4$ and $x + y = 8$ is
 - (A) (5,3)
 - (B) (2,4)
 - (C) (3,5)
 - (D) (4,4)

8. If A is a point on the Y axis whose ordinate is 8 and B is a point on the X axis whose abscissae is 5 then the equation of the line AB is

(A) $8x + 5y = 40$

(B) $8x - 5y = 40$

(C) $x = 8$

(D) $y = 5$

9. A straight line has equation $8y = 4x + 21$. Which of the following is true

(A) The slope is 0.5 and the y intercept is 2.6

(B) The slope is 5 and the y intercept is 1.6

(C) The slope is 0.5 and the y intercept is 1.6

(D) The slope is 5 and the y intercept is 2.6

10. When proving that a quadrilateral is a trapezium, it is necessary to show

(A) Two sides are parallel.

(B) Two parallel and two non-parallel sides.

(C) Opposite sides are parallel.

(D) All sides are of equal length.

ii. Answer the following (any 10)

10 x 2 = 20

11. Find the area of triangle A(-3,5) B (5,6), C(5,-2)

12. The line through the points (-2,a) and (9,3) has slope $-1/2$ find a.

13. If the points P(-1,-4) Q(b,c) R(5,-1) are collinear and if $2b+c=4$, find the value of b and c.

14. Show that the given points are collinear using slope (-3,4) (7,2) (12,5)

15. Find the slope and y intercept of $3x+3y=3$.

16. Find the equation of a straight line through the points (2,3) (-7,-1)

17. Find the equation of a straight line passing through (1,-4) and has intercepts in the ratio 2:5

18. Find the equation of straight line parallel to $3x-7y=12$ and passing through (6,4)

19. Find the slope of $6x+8y+7=0$ which is perpendicular.

20. Check whether parallel or perpendicular $x/3+y/4+1/7=0$ and $2x/3+y/2+1/10=0$

21. Find the intercepts of the straight line $4x-9y+36=0$

iii ANSWER THE FOLLOWING (any 4)

$$4 \times 5 = 40$$

22. Show that the points form a right angled triangle and check whether they satisfies pythagoras theorem. L(0,5)M(9,12)N(3,14)

23. Find the area of quadrilateral whose vertices are (8,6),(5, 11), (-5, 12), (-4,3)

24. Find the value of k if the area of a quadrilateral is 28 sq.units whose vertices are (-4,-2) . (-3,k), (3,-2) and, (2,3)

25. If the points A(2,2) B(-2,-3) C,(1,-3) D(x,y) form a parallelogram find the value of x and y.

26. Find the equation of straight line the point of intersection of , $3x+y+2=0$, $x-2y-4=0$ to the point of intersection $7x-3y-4=0$, $2x=x+3$