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# Grade : 11 PERIODIC TEST -3 Date: 22.12.22

# Marks: 40 MATHEMATICS Time: 1.30hr

**EACH QUESTION IN SECTION A CARRIES ONE MARK**

**EACH QUESTION IN SECION B CARRIES TWO MARKS**

**EACH QUESTION IN SECION C CARRIES THREE MARKS**

**EACH QUESTION IN SECTION D CARRIES FIVE MARKS**

**STUDENTS HAVE TO ANSWER ALL THE QUESTIONS.**

**Section A**

1. The equation (x-h)2+(y-k)2=r2 represents

a) parabola b) ellipse c)circle d) hyperbola

2. The centre and radius of the circle (x+5)2 + (y-3)2=25 is

a) (5,3) and 25 b) (5,3) and 5 c) (-5,3) and 25 d) (-5,3) and 5

3. If a, b, c are in arithmetic progression, then

 (a) b = a+c b) 2b = a+c c) b2 = a+c d) 2b2 = a+c

 4. Which of the following is an example of a geometric sequence?

(a) 1, 2, 3, 4 b) 1, 2, 4, 8 c) 3, 5, 7, 9 d)9, 20, 21, 28

 5. The locus of a point, whose abscissa and ordinate are always equal is
 (a) x + y + 1 = 0 (b) x – y = 0 (c) x + y = 1 (d) none of these.

 6. The equation of straight line passing through the point (1, 2) and parallel to

 the line y=3x+1 is
 (a) y+2=x+1 (b) y+2=3(x+1) (c) y–2=3(x–1) (d) y–2=x–1

 7. The equation of the line passing through the point (2, 3) with slope 2 is
 (a) 2x+y–1 = 0 (b) 2x–y+1=0 (c) 2x–y–1=0 (d) 2x+y+1=0

 8. The equation of the line through the points (1, 5) and (2, 3) is
 (a) 2x–y–7=0 (b) 2x+y+7=0 (c) 2x+y–7=0 (d) x+2y–7=0

9. Two lines are perpendicular if the product of their slopes is
 (a) 0 (b) 1 (c) -1 (d) None of these

10. y-intercept of the line 4x – 3y + 15 = 0 is
 (a) -15/4 (b) 15/4 (c) -5 (d) 5

**Section B**

11. Find the equation of the circle whose centre is (-2,3) and radius is 4.

12. Find the distance of the point (-1,1) from the line 12(x+6) =5(y-2).

13. Find the equation of a line which passes through the points(-1,1) and (2,-4).

14. Find the value of x for which the points (x,-1) , (2,1) and (4,5) are collinear.

**Section C**

15. In a G.P., the 3rd term is 24 and the 6th term is 192. Find the 10th term.

16. Without using the Pythagoras theorem, show that the points ( 4,4) , (3,5)

 and (-1,-1) are the vertices of a right angled triangle.

17. Find the equation of the line passing through the point (2,2,) and cutting off

 intercepts on the axes whose sum is 9.

18. Find the centre and radius of the circle x2+y2+8x+10y-8=0.

**Section D**

19. Find the sum of the sequence 7,77,777,7777 ,… to n terms.

**(OR)**

The sum of first three terms of a G.P. is $\frac{13}{12}$ and their product is -1. Find the

common ratio and the terms.

20. The Fahrenheit temperature F and absolute temperature K satisfy a linear

 equation. Given that K=273 when F =32 and that K=373 and F = 212.

 Express K in terms of F and find the value of F when K=0.