NAVY CHILDREN SCHOOL,MUMBAI

CLASS IX Session 2021-22

PERIODIC TEST 3

Time Allowed : 90 minutes **Max. Marks: 40**

General Instructions:

1. **The question paper consists of four sections A,B, C and D .**
2. **All questions are compulsory.**
3. **There is an internal choice in sections B,C and D .P**

SECTION A [1M X 10= 10M]

1. **The adjacent angles of a parallelogram are**
   a) **Complementary** b) **supplementary** c) **equal** d) **none of these**
2. **If in a quadrilateral its diagonal bisect each other and are equal, then it is a**
   a) **Square** b)**kite** c) **rhombus** d) **parallelogram**
3. **In a parallelogram ABCD , if angle A = $3x - 50^o$ and angle C = $x + 40^o$,then the value of x is**
   a) 25^o b)60^o c) 75^o d) 45^o
4. **Three angles of a quadrilateral are 75^o,90^o,75^o. The fourth angle is**
   a) 90^o b)95^o c) 105^o d) 120^o
5. **Which of the following is not a quadrilateral**
   a) **Square** b)**kite** c)**triangle** d) **parallelogram**
6. **With the help of ruler and compass, which of the following is not possible to construct?**
   a) 70^o b) 60^o c) 135^o d) 105^o
7. **Which of the following sets of angles can be angles of a triangle**
   a) 30^o ,60^o ,80^o b) 40^o ,60^o ,70^o c) 50^o ,30^o ,100^o d) 30^o ,50^o ,90^o
8. **The coefficient of x^2 in $3x^3 - 2x^2 - x + 1$ is**
   a) 1 b)2 c) -2 d) -1
9. **The value of $f(x) = 5x - 4x^2 + 3$ when x = -1**
   a) 3 b) -12 c) -6 d) 6
10. **The zero of the polynomial f(x) = 2x +7 is**
    a) 2/7 b) -2/7 c) 7/2 d) -7/2

SECTION B **[2M X 5 = 10M]**

11. Construct $\angle ABC = 120^o$ and bisect it .

12. If ABCD is a rectangle with $\angle BAC = 32^o$. Find measure $\angle DBC$.

13. If four angles of a quadrilateral are in the ratio 1:2:4:5. Find the smallest angle .

14. Evaluate : $(998)^2$ OR (104 x 96)

15. Check whether x-1 is a factor of $p(x) = x^4+x^3 – 2x^2 + x +1$.

SECTION C [3M X 5 = 15M]

16. Construct a triangle ABC in which BC = 7cm, $\angle B = 75^o$ and AB + AC = 13cm .

OR

Construct a triangle ABC in which BC = 8 cm , $\angle B = 45^o$ and AB - AC = 3.5cm .

17. Show that the diagonals of a rhombus are perpendicular to each other.

18. **PQRS is a quadrilateral in which A,B,C and D are midpoints of side PQ,QR,RS and SP respectively. PR is the diagonal. Show that quad.ABCD is a parallelogram.**

19. **Find the value of p(0) + p (1) + p(2) if $p(x) = 2 + x + 2x^2 – x^3$.**

20. Factorise : (a) $2x^2 + 3x - 2$ and (b) $27x^3 + 125y^3$

SECTION D **[5M X 1= 5M]**

21. Orphange owners often need extra support. By helping such organisations to take on more children and provide more quality care, we can have good impact on the society. For this, Nirvair donated some amount to an orphanage. His friend Sniti wanted to know the amount donated by him. Nirvair did not disclose the amount to her but gave a clue that he donated $x + \frac{1}{x}$ = Rs 8.

A) So how much he donated if the amount was Rs $(x^2 + \frac{1}{x^2})$?

B) What would be the amount if he had donated $(x^3 + \frac{1}{x^3})$?

OR

What would be the amount if he had donated $(x^4 + \frac{1}{x^4})$?