**SAINIK SCHOOL GOPALGANJ**

**SUMMER VACATION ASSIGNMENT**

**SUBJECT : MATHEMATICS**

**CLASS : IX**

1. To represent √34 on number line using graph paper.

2. To verify the algebraic identity : (a+b)3= a3+3ab(a+b) +b3 .

3. To represent a linear equation in two variables graphically.

4. To obtain mirror image of figure with respect to a given line on a graph paper.

5. To find the following using paper folding :

(a) The perpendicular bisector of line segment.

(b) The perpendicular to a line at a point given on line.

6. Design a crossword puzzle with some mathematical terms and the words should be filled ACROSS and DOWN. \*

The above work should be done in File with A 4 size sheet

7. A field is in the shape of a parallelogram has sides 60m and 40m and one of its diagonals is 80m long. Find the area of the parallelogram.

8. The perimeter of a triangular field is 420m and its sides are in the ratio 1:2:3. Find the area of the triangular field.

9. The quadrilateral whose diagonals measure 48 m and 32 m respectively and bisect each other at right angles. Find its area and perimeter.

11. ABCD is a trapezium of area 91 sq.cm. CD is parallel to AB and CD is longer than AB by 8cm. If the distance between AB and CD is 7cm, find AB and CD.

12. The length of the sides forming right angle of a right angled triangle are 5x cm and

( 1) −3x cm. If the area of the triangle is 60 sq.cm., find its hypotenuse.

14. Draw a trapezium in the coordinate plane whose vertices are A(4, 6); B( − 2, 3) ; C( − 2, − 5) D(4, − 7).

15. Find out the quadrants in which the following points lie: P( − 7, 6 ); Q( 7, − 3 ) ; R( − 4, 4 ) ; S( − 2, − 5 ).

16. Draw a rectangle ABCD in the coordinate plane such that its vertices are A( 4, 3); B( 4, − 2) C(7, 3 ) and D ( −7, −C)

17. Which of the following numbers can be represented as non-terminating, repeating decimals?

1. 39/24
2. 3/16
3. 3/11
4. 137/25

18. The numbers of consecutive zeros in 23x34x54x7, is

1. 3
2. 2
3. 4
4. 5

19. If 8x+1=64, what is the value of 32x+1?

1. 1
2. 3
3. 9
4. 27

20. If (23)2=4x, then 3x=

1. 3
2. 9
3. 27
4. 6

21.x is eual to

1. 5
2. 6

22. If x+ =4, then x+1/x=

(a) 2

(b) 4

(c) 8

(d) 1

23. If + = -1, then a3-b3 =

(a) 1

(b) -1

(c) 1/2

(d) 0

24. If + =1, then a3+b3=

(a) 1

(b) -1

(c) 1/2

(d) 0

25. The factors of a2-1-2x-x2 are

(a) (a-x+1)(a-x-1)

(b) (a+x-1)(a-x+1)

(c) (a+x+1)(a-x-1)

(d) None of these

26. If (x+y) 3-(x-y)3-6y(x2-y2)=ky2, then k=

(a) 1

(b) 2

(c) 4

(d) 8

27. If x+2 is a factor of x2+mx+14, then m=

(a) 7

(b) 2

(c) 9

(d) 14

28. If x51+51 is divided by x+1, the remainderis

(a) 0

(b) 1

(c) 49

(d) 50

29. The sum of three angles of a triangles

(a) 90

(b) 120

(c) 130

(d) 180

30 Supplementary of an angle 700 is

1. 120
2. 130
3. 140
4. 80