**INDIAN SCHOOL AL WADI AL KABIR**

**Dept. Of Mathematics 2018-19, Class IX**

**HOLIDAY HOME WORK**

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| **Questions Ans** | | |
| 1 | Simplify : |  |
| 2. | Factorize : 6 –x- |  |
| 3. | Using Heron’s formula find the area of an equilateral triangle with side 16cm. | 64cm2 |
| 4. | Two supplementary angles are in the ratio of 2 : 7.Find the measures of angles. | and |
| 5. | If p+ q = 12 and pq = 27, find the value of + | 756 |
| 6. | Find the value of k for which the point lies on the graph of the equation 2x – y + k = 0 | 5 |
| 7. | Find the coordinates of the points where the line representing the equation =1 - cuts the x-axis and the y-axis. | Point on the x-axis (4,0) and the point on the y-axis (0,6) |
| 8. | Prove that sum of the measures of all the three angles of a triangle is | Systematic poof |
| 9. | Find a and b, if + = a + b. | a = and b=0 |
| 10. | Prove that the line segment joining the mid points of the two sides of a triangle is parallel to the third side and is half of it. | Systematic poof |
| 11. | In the mathematics test given to 15 students, the following marks are  (out of 80 ) are recorded: 41, 39, 48, 52, 46, 62, 54, 40, 78, 52, 76, 40, 42, 52, 60. Find the mean, median and mode of this data. | Mean = 52.13  Median= 52  Mode= 52 |
| 12 | A rhombus garden is 52m. One of the diagonal is 24m.Find the area of the garden. | 120m2 |

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| **Questions Ans** | | |
| 13 | In the figure given below X and Y are the mid-points of AC and BC and AX = CY. Show that AC = BC. |  |
| 14. | image195.jpeg  In the above fig. In figure, if AB **ا ا** CD, APQ = 50 and PRD = 127.  Find the values of x and y. | X =50  Y=77 |
| 15. | Without actually calculating the cubes , find the value of :  (35)3 + (-15)3 + (-20)3 | 31500 |
| 16. | In the figure given below bisectors ofB and C of a triangle ABC intersect each other at the point O. . Prove thatBOC = 90˚ + ∠A  A    O  B C |  |
| 17. | Express 0.34 in form, where p and q are integers and q 0. |  |
| 18. | The marks obtained (out of 100) by a class of 75 students are given below.  Construct a histogram and frequency polygon to represent the following data.   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Marks | 10-20 | 20-30 | 30-50 | 50-70 | 70-100 | | Number of students | 4 | 15 | 12 | 26 | 18 | |  |
| 19. | Using Remainder theorem, factorize: x3 – 9x2 + 23x – 15. | (x-1)  (x-5)  (x-3) |
| 20. | Represent on the number line. |  |
| 21. | P  S Q R  In the above figure PQ = PR. Show that PS ˃PQ |  |
| 22. |  | 1 |
| 23. | Three coins tossed simultaneously 200 times with the following frequencies of  different outcomes.   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Out come | No head | one head | two head | three head | | Frequency | 48 | 72 | 44 | 36 |   If the coin tossed again then find the probability of :  (i) getting exactly two heads  (ii) getting at least two heads  (iii) getting at most two heads  (iv) getting a tail | i)  ii)  iii)  iv) |
| 24. | (a) Write any two Euclid’s axioms (b) Write Euclid’s postulates |  |
| 25. |  |  |