Final Unit (29 February 2016)
Class – VIII
Paper-Mathematics

Time: 3hrs. **M.M. 90**

Note: i) Attempt all questions.

ii) Q1 to Q10 carry 2 marks each in Section A

iii) Q11 to Q20 carry 3 marks each in Section B

iv) Q21 to Q30 carry 4 marks each in Section C

Section-A

1. Is 243 a perfect cube?
2. Tahira's weight decreased from 75kg to 60kg. Find percentage decrease.
3. Is it possible to have a polyhedron with any given number of faces?
4. The diagonal of a rhombus are 16cm and 30cm. Find its area.
5. Simplify $(-4)^{-3} \times (5)^{-3} \times (-5)^{-3}$.
6. Express 1.6×10^{-3} in usual form.
7. Factorise $10x^2 - 18x^3 + 14x^4$
8. Do as directed

$$\begin{array}{r} \text{A 1 A} \\ \times\ \text{A} \\ \hline \text{3 A 9 A} \end{array}$$

Find A.

9. The surface area of a cube is $726cm^2$. Find its edge.
10. A polyhedron has 4 faces and 6 edges. How many vertices will it have?

Section- B

11. Is 1188 a perfect cube? If not, by which smallest number should 1188 must be divided so that quotient is a perfect cube.
12. The list price of a frock is Rs. 220. A discount of 20% is announced on sales. What is its sale price?
13. A machinery worth Rs. 10,500 depreciated by 5%. Find its value after one year.
14. The area of a trapezium shaped field is 480 m^2. The distance between two parallel sides is 15m and one of the parallel side is 20m. Find the other parallel side.
15. Find the height of a cylinder whose radius is 7cm and total surface area is 968 cm^2.

16. Find x such that $(-3)^{x+1} \times (-3)^5 = (-3)^7$

17. A train is moving at a uniform speed of 75km/hour. How far will it travel in 20 minutes.

18. There are 100 students in a hostel. Food provision for them is for 20 days. How long will these provisions last if 25 more student join the group?

19. Factorise: (i) $48a^2 - 243b^2$ (ii) $121x^2 - 88xy + 16y^2$

20. Plot the following points on the graph and verify if they lie on a line

W (2, 6), X (3, 5), Y (5, 3), Z (6, 2)

Section-C

21. Meenu bought two fans for Rs. 1200 each. She sold one at a loss of 5% and the other at a profit of 10%. Find the selling price of each. Also find profit or loss percent.

22. I borrowed Rs. 12000 from Jamshed at 6% per annum simple interest for 2 yrs. Had I borrowed this sum at 6% per annum compound interest. What extra amount would I have to pay?

23. A cuboid is of the dimensions $60cm \times 54cm \times 30cm$. How many small cubes with side 6cm can be placed in the given cubiod.

24. A rectangular piece of paper $11cm \times 4cm$ is folded without overlapping to make a cylinder of height 4cm. Find volume of the cylinder.

25. Simplify $\dfrac{3^{-5} \times 10^{-5} \times 125}{5^{-7} \times 6^{-5}}$

26. Factorise i) $x^4 - (y+z)^4$ ii) $x^2 - 4x - 12$ (2½, 1½)

27. Divide i) $z(5z^2 - 80)$ *by* $5z\ (z+4)$ ii) Find and correct the error $(z+5) = z^2 + 25$ (2½, 1½)

28. Draw the graph for the following:

Deposit (in Rs.)	1000	2000	3000	4000	5000
Simple Interest (in Rs.)	80	160	240	320	400

Answer the following questions

i) Does the graph passes through origin?

ii) Use the graph to find interest on Rs. 2500 per year.

29. Irfan is making a wheel using spokes. He wants to fix equal spokes in such a way that angles between any pair of consecutive spokes are equal. Help him by completing the table.

Number of spokes	4	6	8	10	12	8
Angle between a pair of consecutive spokes	90^0	60^0	-	-	-	-

30. a) If 13z5 is a multiple of 3, where z is a digit what might be the values of z.

b) Thickness of a paper is 0.0016cm. Express it in standard from. (3, 1)