KENDRIYA VIDYALAYA SANGATHAN, HYDERABAD REGION
SAMPLE PAPER 03 FOR SESSION ENDING EXAM (2017-18)

SUBJECT: MATHEMATICS

BLUE PRINT FOR SESSION ENDING EXAM: CLASS VIII

Unit/Topic	VSA (1 mark)	Short answer (2 marks)	Short answer (3 marks)	Long answer (4 marks)	Total
Linear equations in one variable	1(1)	--	1(3)	1(4)	**3(8)**
Squares and Square Roots	1(1)	2(4)	1(3)	--	**4(8)**
Comparing Quantities	1(1)	--	1(3)	1(4)	**3(8)**
Algebraic Expression	1(1)	--	2(6)	1(4)	**4(11)**
Visualizing Solid Shapes	1(1)	1(2)	1(3)	--	**3(6)**
Mensuration	--	--	2(6)	1(4)	**3(10)**
Exponents and Powers	1(1)	1(2)	1(3)	1(4)	**4(10)**
Direct and Inverse Proportion	--	1(2)	--	1(4)	**2(6)**
Factorisation	--	1(2)	--	1(4)	**2(6)**
Introduction to Graphs	--	--	--	1(4)	**1(4)**
Playing with Numbers	--	--	1(3)	--	**1(3)**
Total	**6(6)**	**6(12)**	**10(30)**	**8(32)**	**30(80)**

Note: Linear Equations in one variable, Squares & Square Roots and Comparing Quantities (30% i.e. 24 marks) of 1st term syllabus covering significant topics/chapters have taken as per CBSE guidelines.

MARKING SCHEME FOR SESSION ENDING EXAM

SECTION	MARKS	NO. OF QUESTIONS	TOTAL
VSA	1	6	08
SA – I	2	6	12
SA – II	3	10	30
LA	4	8	32
GRAND TOTAL			**80**

SUBJECT: MATHEMATICS	**MAX. MARKS : 80**
CLASS : VIII	**DURATION : 3 HRS**

General Instructions:
(i).   **All** questions are compulsory.
(ii).   This question paper contains **30** questions divided into four Sections A, B, C and D.
(iii). **Section A** comprises of 6 questions of **1 mark** each. **Section B** comprises of 6 questions of **2 marks** each. **Section C** comprises of 10 questions of **3 marks** each and **Section D** comprises of 8 questions of **4 marks** each.
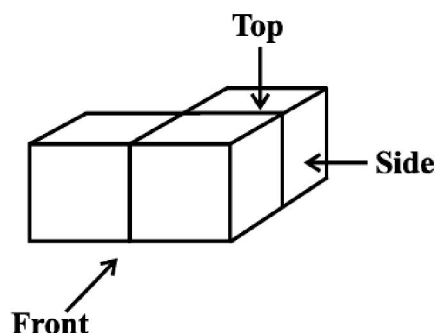(iv).   Use of Calculators is not permitted

SECTION – A

1. Solve: $7x – 9 = 16$.

2. Find the square of the number 42.

3. A football team won 10 matches out of the total number of matches they played. If their win percentage was 40, then how many matches did they play in all?

4. Find the product : $(a^2 – 9)4a$

5. Find the value of $\left(2^{-1} – 4^{-1}\right)^2$

6. Draw the top view of the given solid:

SECTION – B

7. A gardener has 1000 plants. He wants to plant these in such a way that the number of rows and the number of columns remain same. Find the minimum number of plants he needs more for this.

8. Find the smallest square number that is divisible by each of the numbers 8, 15 and 20.

9. 6 pipes are required to fill a tank in 1 hour 20 minutes. How long will it take if only 5 pipes of the same type are used?

10. Find m so that $(–2)^{m + 1} \times (–2)^3 = (–2)^9$

11. Factorise: $5y^2 – 20y – 8z + 2yz$

12. Using Euler's formula find the unknown.

Faces	?	20
Vertices	6	12
Edges	12	?

SECTION – C

13. Find the square root of the following by long division method. (a)1369 (b) 5625

14. Find CI on Rs 12600 for 2 years at 10% per annum compounded annually.

15. Solve: $\dfrac{7y+4}{y+2} = \dfrac{-4}{3}$

16. Show that: $\left(\dfrac{4}{3}m - \dfrac{3}{4}n\right)^2 + 2mn = \dfrac{16}{9}m^2 + \dfrac{9}{16}n^2$

17. In a building there are 24 cylindrical pillars. The radius of each pillar is 28 cm and height is 4 m. Find the total cost of painting the curved surface area of all pillars at the rate of Rs 8 per m^2.

18. Simplify: $\dfrac{25 \times t^{-4}}{5^{-3} \times 10 \times t^{-8}} (t \neq 0)$

19. A road roller takes 750 complete revolutions to move once over to level a road. Find the area of the road if the diameter of a road roller is 84 cm and length is 1 m.

20. If $31z5$ is a multiple of 3, where z is a digit, what might be the values of z?

21. Verify Euler's formula for these solids:
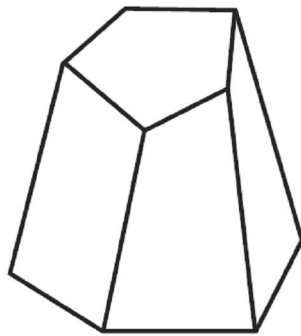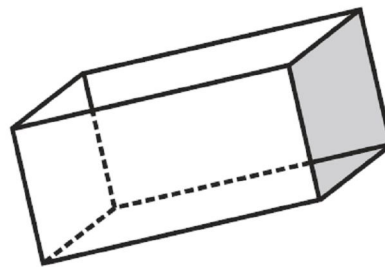
(i)   (ii)

22. Simplify: (i) $(x + y)(2x + y) + (x + 2y)(x - y)$
(ii) $(x + y)(x^2 - xy + y^2)$

SECTION – D

23. One of the two digits of a two digit number is three times the other digit. If you interchange the digits of this two-digit number and add the resulting number to the original number, you get 88. What is the original number?

24. Find the population of a city after 2 years, which is at present 12 lakhs, if the rate of increase is 4%. Write any two effects of high populations?

25. Plot the following points on same graph sheet. Verify if they lie on a line
(a) A(4, 0), B(4, 2), C(4, 6), D(4, 2.5)
(b) P(1, 1), Q(2, 2), R(3, 3), S(4, 4)

26. Factorise the expressions and divide them as directed.

(i) $(5p^2 - 25p + 20) \div (p - 1)$ (ii) $4yz(z^2 + 6z - 16) \div 2y(z + 8)$

27. Express the following numbers in standard form.

(i) 0.000000000085

(ii) 0.00000000000942

(iii) 6020000000000000

(iv) 31860000000

28. Using identities, evaluate (i) 78×82 (ii) 8.9^2

29. Two persons could fit new windows in a house in 3 days.

(i) One of the persons fell ill before the work started. How long would the job take now?

(ii) How many persons would be needed to fit the windows in one day?

30. Diameter of cylinder A is 7 cm, and the height is 14 cm. Diameter of cylinder B is 14 cm and height is 7 cm. Without doing any calculations can you suggest whose volume is greater? Verify it by finding the volume of both the cylinders. Check whether the cylinder with greater volume also has greater surface area?

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