



RAMAGYA SCHOOL, NOIDA
OLYMPIAD WORKSHEET
CLASS – VIII

(Concept based)

1. If the digit in one's place of a number is 2, then the last digit of its cube will be:
(A) 2 (B) 4 (C) 6 (D) 8
2. Generalised form of a two digit number xy is
(A) $10x - y$ (B) $10x + y$ (C) $10y + x$ (D) $x + y$
3. An algebraic expression containing three terms is called a
(A) Monomial (B) binomial (C) trinomial (D) All of these
4. Which of the following is a perfect cube?
(A) 10000 (B) 243 (C) 343 (D) 270000
5. Which of the following is the cube root of $729/343$?
(A) $7/9$ (B) $-7/9$ (C) $9/7$ (D) $-9/7$

(Application based)

6. A six digit number is formed by repeating a three digit number. For example 256256, 678678, etc. Any number of this form is divisible by
(A) 7 only (B) 11 only (C) 13 only (D) 1001
7. How many cubes of side 2 cm can be packed in a wooden cubical box with outer side equal to 6 cm and thickness of wood 2 cm?
(A) 8 (B) 10 (C) 12 (D) 14
8. The product of $(a - b)(a^2 + ab + b^2)$ is
(A) $(a^3 + b^3)$ (B) $(a^3 - b^3)$ (C) $(a + b)^3$ (D) $(a - b)^3$
9. $123x^2y - 138x^2y$ is a like term of:
(A) $10xy$ (B) $15xy$ (C) $-15xy^2$ (D) $10x^2y$
10. $(x^2 - 13a + 30) \div (a - 10)$ is
(A) $(a - 3)$ (B) $(a + 3)$ (C) $(a + 10)$ (D) $(a - 10)$
11. The value of $3x^2 - 5x + 3$ when $x = 1$ is
(A) 0 (B) 1 (C) -1 (D) 11

(HOTS)

12. The length of a side of a square is given as $2x+3$. Which expression represents the perimeter of the square?
(A) $2x + 16$ (B) $6x + 9$ (C) $8x + 3$ (D) $8x + 12$
13. $(2x - y)^3 - (2x + y)^3$ is
(A) $-24xy^2 + 2x^3$ (B) $24x^2y + 2y^3$ (C) $-24xy^2 - 2x^3$ (D) $-24x^2y - 2y^3$
14. Value of $x^3 + y^3$ if $x + y = 3$ and $xy = 2$ is
(A) 7 (B) 8 (C) 9 (D) 10

(Value based)

15. The area of a rectangular field is $(a^2 - 19a + 90) \text{ m}^2$. What is its width if its length is $(a - 9) \text{ m}$?
(A) $(a - 10) \text{ m}$ (B) $(a - 9) \text{ m}$ (C) $(a + 10) \text{ m}$ (D) $(a + 9) \text{ m}$
16. If $5x$ books cost Rs. $(10x^2 + 20x)$, what is the cost of one book?
(A) Rs. $(2x + 4)$ (B) Rs. $(x + 2)$ (C) Rs. $(4x + 2)$ (D) Rs. $(x + 4)$

(Logical Reasoning)

17. Some letters are given which are numbered 1, 2, 3, 4 and 5. Find the combination of numbers from the options so that the letters arranged accordingly form a meaningful word.
 E R P I C
 1 2 3 4 5
(A) 3, 2, 1, 4, 5 (B) 3, 2, 4, 5, 1 (C) 3, 2, 4, 1, 5 (D) 3, 2, 1, 5, 4
18. Find out from the options which is the mirror-image of the given word, if the mirror is placed vertically right.
 CONTENTS
(A) STNETNOC (B) STNETNOC (C) CONTENTS (D) STNETNOC
19. Pia walks a distance of 4 metres towards south. Then she turns to the left and walks 3 metres. After this she turns to the right and walks 4 metres. Now which direction is she facing ?
(A) South (B) North (C) South-West (D) North-East
20. If $(k - 8)$ is the highest common factor of 56 and 77, then the value of k is _____.
(A) 15 (B) 7 (C) 11 (D) 16