



RAMAGYA SCHOOL, NOIDA

CLASS-IX/ SUB-MATHEMATICS/2017-18

OLYMPIAD PRACTICE WORKSHEET

Section-1 - Logical Reasoning

1. Choose the correct option so that a series can be established: 0, 7, 26, 63, (.....)
(a) 125 (b) 124 (c) 120 (d) 126
2. If the second half of the following alphabets is arranged in the reverse order, which letter will be ninth letter to the right of the ninth letter counting from the left end?
ABCDEFGHIJKLMNOPQRSTUVWXYZ
(a) I (b) F (c) V (d) W
3. How many pairs of letters in the word DABBLE have as many letters between them in the word as in the alphabets?
(a) nil (b) 1 (c) 2 (d) 3 (e) none of these
4. Archna is elder than Suman. Arti is elder than Archna but younger than Kusum. Kusum is elder than Suman. Suman is younger than Arti and Gita is the eldest, then Who is the youngest?
(a) Archna (b) Suman (c) Arti (d) Kusum

Section-2 : Mathematical Reasoning

5. If the product of two surds is a rational number, then each one of them is called the _____ of other
(a) Negative (b) Rationalising factor (c) Conjugate surd (d) Binomial surd
6. The perpendicular distance of the point (3,5) from x-axis is:
(a) 3 units (b) 8 units (c) 5 units (d) 7 units
7. The points (other than origin) whose abscissa and ordinates are same will lie in quadrants
(a) I and III (b) II and III (c) II only (d) none of these
8. Find the remainder when $(x^4 + x^3 - 2x^2 + x + 1)$ is divided by $(x - 1)$
(a) 1 (b) 5 (c) 2 (d) 3
9. The ordinate of any point on x-axis is
(a) 1 (b) 0 (c) 2 (d) 3

10. Simplify: $\frac{(16 \cdot 2^{n+1} - 4 \cdot 2^n)}{(16 \cdot 2^{n+2} - 2 \cdot 2^{n+2})}$

- (a) 1 (b) -1 (c) 0 (d) $\frac{1}{2}$

11. $7.\bar{2}$ is equal to

- (a) $\frac{63}{9}$ (b) $\frac{64}{9}$ (c) $\frac{65}{9}$ (d) $\frac{67}{9}$

12. If $x = (2 + \sqrt{3})$, then the value of $(x^2 + \frac{1}{x^2})$ is

- (a) 16 (b) 14 (c) 12 (d) 18

13. If $(\frac{5+2\sqrt{3}}{7+4\sqrt{3}}) = (a - b\sqrt{3})$, then value of a and b are

- (a) -6, -11 (b) 6, 11 (c) 6, -11 (d) 11, 6

14. The degree of polynomial $(x^2 - 2)(x^3 + 11)$ is

- (a) 2 (b) 3 (c) 4 (d) 5

15. The zeroes of the polynomial $p(x) = x(x - 1)(x - 2)$ are

- (a) 0, 1, 2 (b) 0, -1, -2 (c) 1, 2 (d) -1, -2

16. If 2 is a zero of $(2x^2 + px - 14)$, then the value of p is

- (a) -3 (b) 3 (c) -7 (d) 7

17. If a, b and c are all non-zero and $(a+b+c)=0$, then value of expression

$$\left(\frac{a^2}{bc} + \frac{b^2}{ac} + \frac{c^2}{ab}\right) \text{ is}$$

- (a) 3 (b) -3 (c) 0 (d) 2

18. The point $(-6, 5)$ lies in which quadrant

- (a) I (b) II (c) III (d) IV

19. The greatest among $\sqrt{2}$, $\sqrt[3]{4}$, $\sqrt[4]{5}$ and $\sqrt[4]{3}$ is

- (a) $\sqrt[4]{3}$ (b) $\sqrt{2}$ (c) $\sqrt[4]{5}$ (d) $\sqrt[3]{4}$

20. The polynomial $(ax^3 + bx^2 + x - 6)$, where a and b are constants, has a factor of $(x + 2)$ and leaves a remainder 4 when divided by $(x - 2)$, then the value of a and b are

- (a) 2, 0 (b) 0, 2 (c) -2, 0 (d) 0, -2