



RAMAGYA SCHOOL, NOIDA
IX/MATHEMATICS/2017-18
OLYMPIAD PRACTICE WORKSHEET

Section-1 - Logical Reasoning (Application based questions)

1. A fruit seller had some apples. He sells 40% apples and still has 420 apples. Originally, he had:
(a) 500 (b) 600 (c) 700 (d) 800
2. If 67 is added to a number the number becomes 120 % of itself, find the number?
(a) 335 (b) 300 (c) 400 (d) 250
3. Three candidates contested an election and received 1136, 7636 and 11628 votes respectively. What percentage of the total votes did the winning candidate get?
(a) 53 (b) 57 (c) 60 (d) 67
4. A vendor bought toffees at 6 for a rupee. How many for a rupee must he sell to gain 20%?
(a) 5 (b) 6 (c) 7 (d) 8

Section-2 : Mathematical Reasoning

Concept based questions:

5. Which point lies in IV quadrant?
(a) (-3,-4) (b) (2,-4) (c) (-2, 3) (d) (0, 1)
6. Through which of the following points, the graph of $y = -x$ passes?
(a) (1, 1) (b) (0, 1) (c) (-1, 1)
7. The polynomial of type $ax^2 + bx + c$, if $a = 0$ is of type
(a) linear (b) quadratic (c) cubic
8. The zero of the polynomial $p(x) = 2x + 5$ is
(a) 2 (b) 5 (c) $\frac{2}{5}$ (d) $-\frac{5}{2}$
9. The number of zeros of $x^2 + 4x + 2$
(a) 1 (b) 2 (c) 0 (d) 3
10. The degree of polynomial $p(x) = x + \sqrt{x^2 + 1}$ is
(a) 1 (b) 2 (c) 0 (d) 3

Value based questions:

11. The value of

$$\frac{(361)^3 + (139)^3}{(361)^2 - 361 \times 139 + (139)^2} \text{ is}$$

- (a) 300 (b) 500 (c) 400 (d) 600
12. The value of k, if $(x - 1)$ is a factor of $4x^3 + 3x^2 - 4x + k$, is
(a) 1 (b) 2 (c) -3 (d) 3
13. If $3 + 5 - 8 = 0$, then the value of $(3)^3 + (5)^3 - (8)^3$ is
(a) 260 (b) -360 (c) -160 (d) 160
14. If value of 104×96 is
(a) 9984 (b) 9469 (c) 10234 (d) 11324
15. The value of $(5.63 \times 5.63 + 11.26 \times 2.37 + 2.37 \times 2.37)$ is

(a) 237

(b) 126

(c) 56

(d) 64

HOTS based questions:

16. Which point lies on the left of y-axis?

(a) (2, 0)

(b) (-2,-4)

(c) (5, 2)

(d) (3, 6)

17. On which of the following equations, the point of the form (m, -m) lies?

(a) $x = -m$

(b) $x + y = 0$

(c) $y = x$

(d) $x = m$

18. If one of the factor of $x^2 + x - 20$ is (x + 5). Find the other

(a) x-4

(b) x + 2

(c) x+4

(d) x-5

19. If x + 2 is a factor of $x^3 - 2ax^2 + 16$, then value of a is

(a) 3

(b) 1

(c) 4

(d) 2

20. If $x + y = 3$, $x^2 + y^2 = 5$ then xy is

(a) 1

(b) 3

(c) 2

(d) 5