



RAMAGYA SCHOOL, NOIDA

IX/MATHS/2018-19

OLYMPIAD PRACTICE WORKSHEET

(Concept based)

1. If the point (3, 4) lies on the graph of equation $3y = ax + 7$, then the value of a is _____
(A) $2/3$ (B) 1 (C) $4/3$ (D) $5/3$
2. Find the remainder when the expression $3x^3 + 8x^2 - 6x + 1$ is divided by $x + 1$
(A) 1 (B) 10 (C) 0 (D) none of these
3. Every point on a number line represents
(A) a unique real number (B) a natural number (C) a rational number (D) an irrational number
4. The rationalization factor of $2 + \sqrt{3}$ is
(A) $2 - \sqrt{3}$ (B) $\sqrt{2} + 3$ (C) $\sqrt{2} - 3$ (D) $\sqrt{3} - 2$
5. The graph of $y = 6$ is a line
(A) parallel to x-axis at a distance of 6 units from the origin
(B) parallel to y-axis at a distance of 6 units from the origin
(C) making an intercept of 6 units on the x-axis
(D) making an intercept of 6 units on both the axis

(Application based)

6. The value of $(28)^3 + (-15)^3 + (-13)^3$ is
(A) 1260 (B) -16380 (C) -1260 (D) 16380
7. If $x = \sqrt{5} + 2$, then $x - 1/x$ equals
(A) $2\sqrt{5}$ (B) 4 (C) 2 (D) $\sqrt{5}$
8. The point of intersect of the coordinate axes is
(A) ordinate (B) abscissa (C) quadrant (D) origin
9. How many linear equations in x and y can be satisfied by $x = 2, y = 3$?
(A) only 1 (B) only 2 (C) infinitely many (D) none of these
10. $ax + by + c = 0$ does not represent an equation of line, if _____
(A) $a = c = 0, b \neq 0$ (B) $b = c = 0, a \neq 0$ (C) $a = b = 0$ (D) $c = 0, a \neq 0, b \neq 0$

(Value based)

11. A and B are friends. A is elder to B by 5 years. B's sister C is half the age of B while A's father D is 8 years older than twice the age of B. If the present age of D is 48 years, find the present ages of A, B, C respectively.
(A) 50 years, 25 years, 20 years (B) 40 years, 20 years, 15 years

(C) 20 years, 15 years, 10 years

(D) 25 years, 20 years, 10 years

12. Mayank and Sujata, two students of Class 9 together contributed S1000 to PM relief fund. If Sujata contributed S475, then how much Mayank contributed?

(A) 575

(B) 525

(C) 545

(D) 565

13. The cost of a notebook is twice the cost of a pen. If the cost of a notebook is S_x and that of a pen is S_y , then a linear equation in two variables to represent the given condition is _____

(A) $x + 2y = 0$

(B) $x - 2y = 0$

(C) $2x + y = 0$

(D) $2x - y = 0$

14. The coordinated of 2 points are A(3, 4) and B(-2, 5), then (abscissa of A) - (ordinate of B) is _____

(A) 1

(B) -1

(C) 5

(D) -2

15. The perpendicular distance of the point (-7, 8) from the y-axis is _____

(A) 7

(B) 8

(C) -7

(D) 1

Logical Reasoning

16. Find out the missing terms marked with “?”

-4, 7, 29, 62, ?

(A) 95

(B) 106

(C) 62

(D) 102

17. In a shop, there were 4 dolls of different heights A, B, C and D. D is neither as tall as A nor as short as C. B is shorter than D but taller than C. If Mini wants to purchase the tallest doll, which one should she purchase?

(A) only A

(B) only D

(C) either A or D

(D) either B or D

18. If the first half of the English alphabet series is written in reverse order, then which letter should be 8th letter to the left of 14th letter from the right end?

(A) E

(B) G

(C) F

(D) I

19. The position of how many digits in the number will remain same after the digits within the number 213857 are arranged in ascending order

(A) Nil

(B) 4

(C) 3

(D) 2

20. Kalyani is mother-in-law of Veena who is sister-in-law of Ashok. Dheeraj is father of Sudip, the only brother of Ashok. How is Kalyani related to Ashok?

(A) Mother-in-law

(B) Aunt

(C) Wife

(D) None of these