

MATHEMATICS

Fill in the blanks.

1. If $A = \begin{bmatrix} -3 & -2 \\ 5 & 1 \end{bmatrix}$, the $|A| = \dots\dots\dots$
 a. 13 b. -13 c. -7 d. 7
2. The solution of set of $x^2 - 3x = 0$ is $\dots\dots\dots$
 a. {3} b. {1, 3} c. {0, 3} d. {-3}
3. A line segment having both end points on circle and not passing through the center is called $\dots\dots\dots$
 a. Chord b. Secant c. Diameter d. None of these
4. $\sin 30^\circ = \dots\dots\dots$
 a. $\tan 30^\circ$ b. $\sec 30^\circ$ c. $\operatorname{cosec} 60^\circ$ d. $\cos 60^\circ$
5. An equation having two roots is called $\dots\dots\dots$
 a. Linear b. Cubic c. Quadratic d. None of these
6. How many points determine a plane?
 a. 1 b. 2 c. 3 d. None of these
7. If standard deviation of a series is 9, then its variance is $\dots\dots\dots$
 a. 81 b. 3 c. 18 d. None of these
8. The degree of polynomial $x^2y^2 - 7xy + 100$ is $\dots\dots\dots$
 a. Two b. Three c. Four d. Five
9. Difference between the largest and smallest value of a given data is called $\dots\dots\dots$
 a. Range b. Median c. Mode d. Mean deviation
10. $\cot 20^\circ = \tan \dots\dots\dots$
 a. 40° b. 60° c. 70° d. 90°
11. If set A has 7 elements and set B has 3 elements, then the number of order pairs in $A \times B = \dots\dots\dots$
 a. 10 b. 20 c. 21 d. 22
12. The solution set of $x(x - 5) = 0$ is $\dots\dots\dots$
 a. {0,5} b. {-5, 0} c. {0} d. {5}
13. If $13 : 4 = x : 8$, then $x = \dots\dots\dots$
 a. 52 b. 26 c. 32 d. 104
14. Line segment joining any point of a circle to its centre is called $\dots\dots\dots$
 a. Diameter b. Arc c. Chord d. Radial segment
15. $\sec^2\theta = 1 + \dots\dots\dots$
 a. $\tan^2\theta$ b. $\cot^2\theta$ c. $\cos^2\theta$ d. $\sin^2\theta$
16. Point (-2, -2) lies in $\dots\dots\dots$
 a. 1st quadrant b. 2nd quadrant c. 3rd quadrant d. None of these
17. Eliminating 't' from $x - t^2 = 0, y = t^3$, we get $\dots\dots\dots$
 a. $x^2 = y$ b. $x^3 = y^3$ c. $x^3 = y^2$ d. $x = y^2$
18. An angle inscribed in a semi circle is $\dots\dots\dots$
 a. Obtus b. Right angle c. Acute angle d. None of these
19. A circle touching sides of a triangle internally is called $\dots\dots\dots$
 a. Circumcircle b. Inscribed circle c. Escribed circle d. All of these
20. The roots of the equation, $x^2 - 5x + 6 = 0$ are $\dots\dots\dots$
 a. $x = 2, 6$ b. $x = 6, 9$ c. $x = 2, 3$ d. $x = 3, 6$
21. The solution set of equation $ax + b = 0$ is $\dots\dots\dots$
 a. b/a b. $-b/a$ c. ab d. $-ab$
22. In a right angled triangle the inverse ratio of $\operatorname{cosec} \theta = \dots\dots\dots$
 a. $\sin \theta$ b. $\cos \theta$ c. $\tan \theta$ d. $\sec \theta$
23. $\dots\dots\dots$ should be subtracted from $p^2 + 4q^2$ to make the expression complete square.
 a. $4pq$ b. $2pq$ c. pq d. $19pq$
24. The circle is said to be $\dots\dots\dots$ If circle of their radii are of the same length
 a. Tangent circle b. Congruent c. Intersecting d. Concentric
25. $(a + b)^3 = \dots\dots\dots$
 a. $(a - b)(a^2 + ab + b^2)$ b. $(a + b)(a^2 - ab + b^2)$ c. $a^3 + b^3 + 3ab(a + b)$ d. $a^3 + b^3 - 3ab(a + b)$