



MINERVA DEFENCE INSTITUTE

NDA Mathematics PYQ Practice Pack - 1 Year

Prepared for serious NDA aspirants. Maths paper is open for download. Other subject papers are locked for paid access.

Paper	NDA Mathematics
Format	Objective practice set, PYQ-style revision
Use	Attempt in 50 minutes, then check answers
Note	Replace with official year-wise PDFs whenever final paper files are available

Algebra

1. If $x + \frac{1}{x} = 5$, find $x^2 + \frac{1}{x^2}$.
(A) 21 (B) 23 (C) 25 (D) 27
2. The roots of $2x^2 - 7x + 3 = 0$ are:
(A) 3 and $\frac{1}{2}$ (B) 2 and 3 (C) 1 and 3 (D) 7 and 3
3. If $a:b = 3:5$ and $b:c = 10:7$, then $a:c$ is:
(A) 6:7 (B) 3:7 (C) 7:6 (D) 5:7
4. Simplify: $(a+b)^2 - (a-b)^2$.
(A) $2ab$ (B) $4ab$ (C) $a^2 - b^2$ (D) $a^2 + b^2$

Trigonometry

5. If $\sin \theta = \frac{3}{5}$, where θ is acute, find $\cos \theta$.
(A) $\frac{4}{5}$ (B) $\frac{3}{4}$ (C) $\frac{5}{4}$ (D) $\frac{2}{5}$
6. The value of $\tan 45^\circ + \cos 60^\circ$ is:
(A) 1 (B) $\frac{3}{2}$ (C) 2 (D) $\frac{1}{2}$
7. If $\sec A = 2$, then $\tan^2 A$ is:
(A) 1 (B) 2 (C) 3 (D) 4
8. $\sin^2 A + \cos^2 A$ equals:
(A) 0 (B) 1 (C) 2 (D) $\sin A \cos A$

Geometry and Mensuration

9. The area of a triangle with base 12 cm and height 9 cm is:
(A) 54 sq cm (B) 108 sq cm (C) 21 sq cm (D) 42 sq cm
10. The circumference of a circle of radius 7 cm is:
(A) 22 cm (B) 44 cm (C) 77 cm (D) 154 cm
11. Each angle of an equilateral triangle is:
(A) 45 deg (B) 60 deg (C) 90 deg (D) 120 deg

12. The volume of a cube of side 5 cm is:

- (A) 25 cc (B) 75 cc (C) 100 cc (D) 125 cc

Coordinate Geometry and Calculus Basics

13. The distance between (0,0) and (3,4) is:

- (A) 4 (B) 5 (C) 6 (D) 7

14. The slope of the line $y = 2x + 5$ is:

- (A) 2 (B) 5 (C) -2 (D) $\frac{1}{2}$

15. The derivative of x^2 is:

- (A) x (B) $2x$ (C) x^3 (D) 2

16. The value of integral $\int 1 \, dx$ is:

- (A) $x + C$ (B) $1 + C$ (C) 0 (D) $x^2 + C$

Statistics and Probability

17. The mean of 2, 4, 6, 8 is:

- (A) 4 (B) 5 (C) 6 (D) 8

18. The probability of getting a head in one toss of a fair coin is:

- (A) $\frac{1}{4}$ (B) $\frac{1}{2}$ (C) 1 (D) 0

19. The median of 3, 5, 7, 9, 11 is:

- (A) 5 (B) 7 (C) 8 (D) 9

20. If a die is thrown once, probability of getting an even number is:

- (A) $\frac{1}{6}$ (B) $\frac{1}{3}$ (C) $\frac{1}{2}$ (D) $\frac{2}{3}$

Answer Key

Q.No.	Answer	Q.No.	Answer	Q.No.	Answer	Q.No.	Answer
1	B	2	A	3	A	4	B
5	A	6	B	7	C	8	B
9	A	10	B	11	B	12	D
13	B	14	A	15	B	16	A
17	B	18	B	19	B	20	C

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