



Nishant eAcademy

CBSE Sample Paper Class 11 Mathematics 2019-20

Subject: Mathematics Class: 11 Maximum Marks: 80 Duration: 3 hours

Section A: Objective Type (20 marks)

- Multiple Choice Questions: a) If $\log_a x = 3$ and $\log_a y = 4$, find the value of $\log_a(x^2y)$. (A) 11 (B) 12 (C) 13 (D) 14
b) If $\sin\theta = \frac{4}{5}$, find the value of $\cos\theta$. (A) $\frac{3}{5}$ (B) $\frac{4}{5}$ (C) $\frac{5}{4}$ (D) $\frac{5}{3}$
- Fill in the blanks: a) The value of $\sin(90^\circ)$ is _____. b) The value of $\sqrt{121}$ is _____.

Section B: Short Answer Type (40 marks)

- Solve the following equations: a) $2x + 5 = 13$ b) $\frac{3}{x} = \frac{4}{7}$
- Find the value of $\cos(180^\circ + \theta)$ if $\sin\theta = \frac{4}{5}$.
- Prove that $\sqrt{3} + \sqrt{5}$ is irrational.
- Simplify the following expression: $\frac{3x-5}{2x-7} \times \frac{2x^2-3x+1}{x^2-4}$

Section C: Long Answer Type (20 marks)

- Solve the following quadratic equation: $x^2 - 5x + 6 = 0$.
- Prove that $\sqrt{2} + \sqrt{3}$ is an irrational number.
- Find the value of $\sin^{-1}\left(\frac{1}{2}\right)$.