

Mathematics Model Paper-2 Answer Key

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- I
1. C) 3
 2. B) $\frac{\text{Upper class limit} + \text{Lower class limit}}{2}$
 3. D) $\frac{a_1}{a_2} \neq \frac{b_1}{b_2}$
 4. A) 3
 5. B) 0
 6. D) $\sin^2 \theta = 1 - \cos^2 \theta$
 7. C) $\angle B = \angle D$
 8. B) 8 cm

- II
9. Every composite ---
 10. Two real and equal roots
 11. $P(x, y) = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$
 12. Zeros are $x = -1$ & $x = 2$
 13. $x - 3y + 10 = 0$
 14. $S_n = \frac{n}{2} [a + l]$
 15. i) corresponding angles equal
ii) ^{corresponding} sides in same ratio
 16. 385 cm^3

- III
17. $\sqrt{5} = \frac{a - 2b}{b}$
 18. $x = 2, y = 4$
 19. Roots are 1 & 1 (or) $x^2 + 2x + 2 = 0$
 20. $S_{20} = 880$ (or) 10th term
 21. 42 cm, 5 glass sheets
 22. $\tan A = \frac{3}{4}$
 23. $P(x, y) = \left(\frac{13}{4}, \frac{15}{4} \right)$
 24. AB = 8 cm

- IV
25. Proof (or) proof
 26. $n(B) = 5, n(S) = 25$
 27. $\frac{2}{5}$ ($x = 2, x = -\frac{5}{8}$)
(or)
No. of articles produced = 6
Cost = ₹15
 28. $\left(231 - \frac{44\sqrt{3}}{4} \right) \text{ cm}^2$ ($\theta = 60^\circ$)
 29. Mode = 34.7 (or) Median = 28
 30. $K = \frac{5}{2}$
 31. Theorem
 32. Proof (or) Proof
 33. Proof ($5 = 5$)

- V
34. $x = 3, y = 2$ (graphically)
 35. $a_{13} = 26$ ($a = 2, d = 2$)
(or)
A.P is -13, -8, -3, ---
 $a_{25} = 107$

36. Theorem (or) Theorem
37. $AD = 20\sqrt{3} \text{ m}, AB = 60 + 20 = 80 \text{ m}$
 $DC = 20\sqrt{3} \text{ m}, AC = 20\sqrt{6} \text{ m}$

- VI
38. Cost (₹ 1526.250) (Area = 610.5 cm^2)
(or)
Volume of water left
= 2143.4 cm^3
= 2.14 l
Total area = 214.5 cm^2