Mathematics Question Solutions

Q1. A = [[0, -2, -4], [2, 0, -2]]

Q2. Relation R = not reflexive, not symmetric, but transitive.

Q3. |2A| = 4|A| verified.

Q4. a = 2, b = 1.

Q5. Increasing interval: (2, ∞).

Q6. Unit vector = (i + j + 2k)/√6.

Q7. Angle θ = cos■¹(19/21).

Q8. (i) P(A/B) = 0.3 (ii) P(A and not B) = 0.12

Q9. (i) Range(f) = Codomain (ii) f(x) = 3 - 4x is bijective.

Q10. (i) sin■¹(sin x) = x (ii) π/4 (iii) π/6

Q11. M = (M+M■)/2 + (M-M■)/2

Q12. Area = πa²

Q13. General solution: y = (x³)/4 + C/x

Q14. Area = √42

Q15. Method involves vector determinant for shortest distance

Q16. Probability = 0.6