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**Grade: XII MATRICES**

1. Find the inverse of .

2. Find the adjoint of the matrix  and hence show that .

3. If  and , find .

4. Find the matrix A if 

5. If and hence solve the system of linear equations .

6. Decrypt the received encoded message [2 -3] [20 4] with the encryption matrix and the decryption matrix as its inverse, where the system of codes are described by the numbers 1-26 to the letters A-Z respectively, and the number 0 to a blank space.