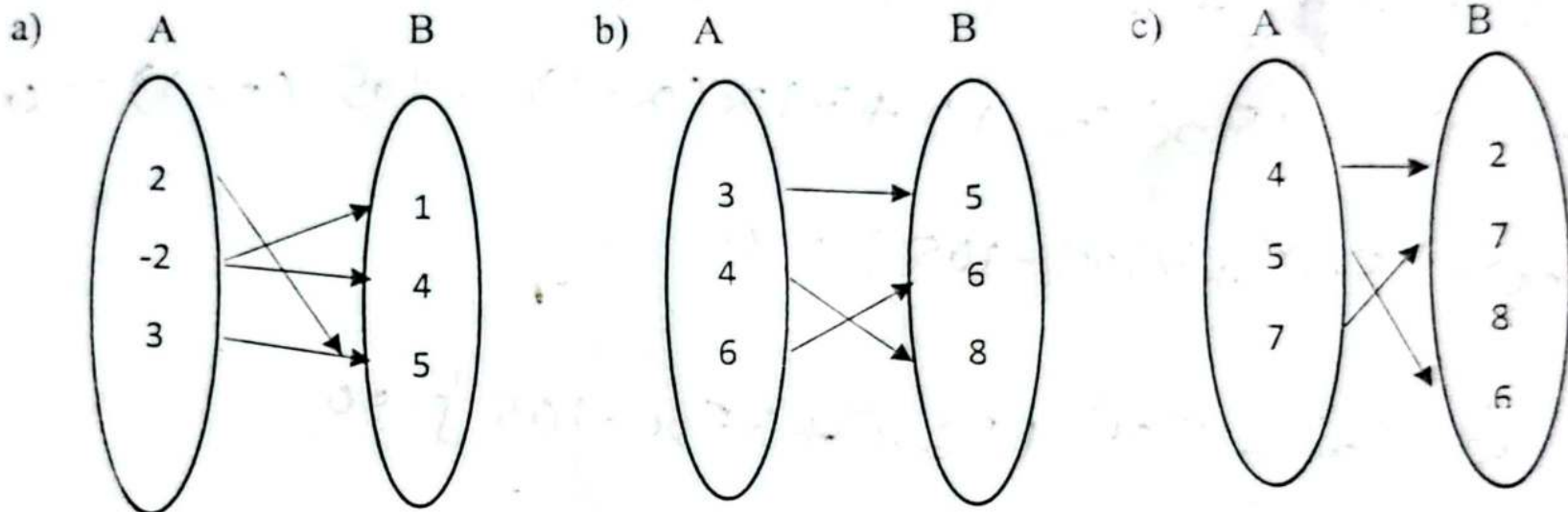


Q1. Identify the Injective, Surjective, and Bijective Function.



Q2. State the factor theorem. Find the roots of the equation $x^4 - 16x^3 + 86x^2 - 176x + 105 = 0$
By using remainder theorem.

Q3. Examine the Differentiability of the following function at the point $x = \frac{\pi}{2}$

$$f(x) = \begin{cases} 1; x < 0 \\ 1 + \sin x; 0 \leq x < \frac{\pi}{2} \\ 2 + \left(x - \frac{\pi}{2}\right); x \geq \frac{\pi}{2} \end{cases}$$