

MATHEMATICS

81. The number of all 1-1 functions from the set $X = \{1, 2, 3\}$ to itself is
 (A) 3 (B) 6 (C) 8 (D) 9
82. The function $f : \mathbb{R} \rightarrow \mathbb{R}$ defined by $f(x) = 2x$ is
 (A) injective but not onto (B) onto but not injective
 (C) neither injective nor onto (D) both injective and onto
83. If $iz^3 + z^2 + iz - 1 = 0$, then $|z|$ equals
 (A) 1 (B) 2
 (C) 3 (D) 4
84. If z_1 and z_2 are two nonzero complex numbers such that $|z_1 + z_2| = |z_1| + |z_2|$, then $\arg z_1 - \arg z_2$ equals
 (A) $-\pi$ (B) $\pi/2$
 (C) 0 (D) $\pi/2$
85. The cofactor of a_{12} in the matrix $\begin{pmatrix} 0 & 3 & 0 \\ 5 & 0 & 4 \\ 6 & 0 & 7 \end{pmatrix}$ is
 (A) 0 (B) 46
 (C) -71 (D) 61