Chapter-2 Complex Number

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PASSAGE − 1

Let **A**,**B**,**C** be three sets of complex number as defined below

A=$\{z : Imz \geq 1\}$

B=$\{z : |z-2-\iota| = 3\}$

C=$\{z : Re\,((1-\iota)\,z) = \sqrt{2}\}$

1) The number of element in the set$\mathbf{A} \cap \mathbf{B} \cap \mathbf{C}$ is (2008)

(a) 0 (b) 1 (c) 2 (d) ∞

2) Let z be any point in$A \cap B \cap C$
Then,$|z+1-\iota|^2 + |z-5-\iota|^2$ lies between (2008)

a) 25 and 29
b) 30 and 34
c) 35 and 39
d) 40 and 44

3) Let z be any point A B C and let w be any point satisfying $|w-2-\iota| < 3$.Then, $|z|-|w|+3$ lies between (2008)

a) -6 and 3
b) -3 and 6
c) -6 and 6
d) -3 and 9