TOPIC
Mathematics – Section I – Question 13

QUESTION
For a certain cubic equation, at least one of the roots is known to be a complex root. How many total complex roots does the cubic equation have?
  (A) one
  (B) two
  (C) three
  (D) cannot be determined

HINT
Complex roots always come in conjugate pairs for real cubic equations.

SOLUTION
The equation would have two complex roots. There are two possible cases for the roots of a cubic equation:
Three real roots
Two complex roots and one real root

Complex roots always come in conjugate pairs ($a+ib, a-ib$).

ANSWER
(B)

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