MX SP   **6**   Let $P(x) = qx^3 + rx^2 + rx + q$ where q and r are constants, $q \neq 0$.   **1**
One of the zeros of $P(x)$ is -1.

19 MX 1   **7**   Given that α is a zero of $P(x)$, $\alpha \neq -1$, which of the following is also a zero?

A. $-\dfrac{1}{\alpha}$ B. $-\dfrac{q}{\alpha}$ C. $\dfrac{1}{\alpha}$ D. $\dfrac{q}{\alpha}$

C

Let the roots be -1, α and β.

Product of roots: $-1(\alpha)(\beta) = -\dfrac{q}{q}$

$$-1\alpha\beta = -1$$

$$\beta = \dfrac{1}{\alpha}$$

The third root is $\dfrac{1}{\alpha}$.

State Mean:
0.51/1

* These solutions have been provided by *projectmaths* and are not supplied or endorsed by NESA.