

If the roots of the equation $8x^3 - 14x^2 + 7x - 1 = 0$ are in G.P., then the roots are

A) 1, 1/2, 1/4

B) 2, 4, 8

C) 3, 6, 12

D) None of these

Correct Answer: A

Solution:

Let the roots be $\alpha, \alpha\beta, \alpha\beta^2, \beta \neq 0$.

Then the product of roots is

$$\alpha^3 = -\frac{1}{8} = \frac{1}{8}$$

$$\Rightarrow \alpha = 1/2$$

and hence

$$\beta = 1/2$$

so, roots are

$$1, 1/2, 1/4$$

Trick: By inspection, we get the numbers

$$1, 1/2, 1/4$$

satisfying the given equation.