

Maths Mock Ex. 2 (Paper 1 Question)

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Question:

If $a^2 - 2a + 5 = 0$, find the value of $a^4 + 2a^2 + 8a + 2006$

Sol:

$$\begin{aligned} a^2 &= 2a - 5 \\ a^4 + 2a^2 + 8a + 2006 & \\ &= (2a - 5)^2 + 2(2a - 5) + 8a + 2006 \\ &= 4a^2 - 8a + 2021 \\ &= 4(2a - 5) - 8a + 2021 \\ &= -20 + 2021 \\ &= 2001 \end{aligned}$$