

$(1+x-x^2-x^3)(1-x-x^2+x^3)$ を展開せよ.

(2004 名古屋経済大)

解説

$$\begin{aligned} & (1+x-x^2-x^3)(1-x-x^2+x^3) \\ &= \{(1-x^2)+x(1-x^2)\}\{(1-x^2)-x(1-x^2)\} \\ &= (1-x^2)^2 - x^2(1-x^2)^2 = (1-x^2)^2(1-x^2) \\ &= (1-x^2)^3 = 1-3x^2+3(x^2)^2-(x^2)^3 \\ &= 1-3x^2+3x^4-x^6 \end{aligned}$$