4 The quadratic equation

$$2x^2 + 4x + 3 = 0$$

has roots α and β

(a) Without solving the equation, show that $\alpha^2 + \beta^2 = 1$

(4)

(b) Without solving the equation, find the value of $\alpha^4 + \beta^4$

(3)

(c) Hence form a quadratic equation with integer coefficients that has roots α^4 and β^4

(3)

Question 4 continued

Question 4 continued

P66307A01032

Question 4 continued

(Total for Question 4 is 10 marks)

P 6 6 3 0 7 A 0 1 1 3 2