

- 8 The roots of the equation $3x^2 - 2x - 1 = 0$ are α and β , where $\alpha > \beta$

Without solving the equation,

- (a) find the value of $\alpha^2 + \beta^2$ (3)

- (b) show that $\alpha - \beta = \frac{4}{3}$ (2)

- (c) form a quadratic equation, with integer coefficients, that has roots $\frac{\alpha + \beta}{\alpha}$ and $\frac{\alpha - \beta}{\beta}$ (6)

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(Total for Question 8 is 11 marks)

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