

8 The equation $x^2 + mx + 15 = 0$ has roots α and β and the equation $x^2 + hx + k = 0$ has roots $\frac{\alpha}{\beta}$ and $\frac{\beta}{\alpha}$

(a) Write down the value of k

(1)

(b) Find an expression for h in terms of m

(6)

Given that $\beta = 2\alpha + 1$

(c) find the two possible values of α

(3)

(d) Hence find the two possible values of m

(3)

[illegible]

Question 8 continued

[illegible]

Question 8 continued

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(Total for Question 8 is 13 marks)

