

9 An arithmetic sequence has first term a and common difference d .

The sum of the first 36 terms of the sequence is equal to the square of the sum of the first 6 terms.

9 (a) Show that $4a + 70d = 4a^2 + 20ad + 25d^2$

[4 marks]

9 (b) Given that the sixth term of the sequence is 25, find the smallest possible value of a .

[5 marks]