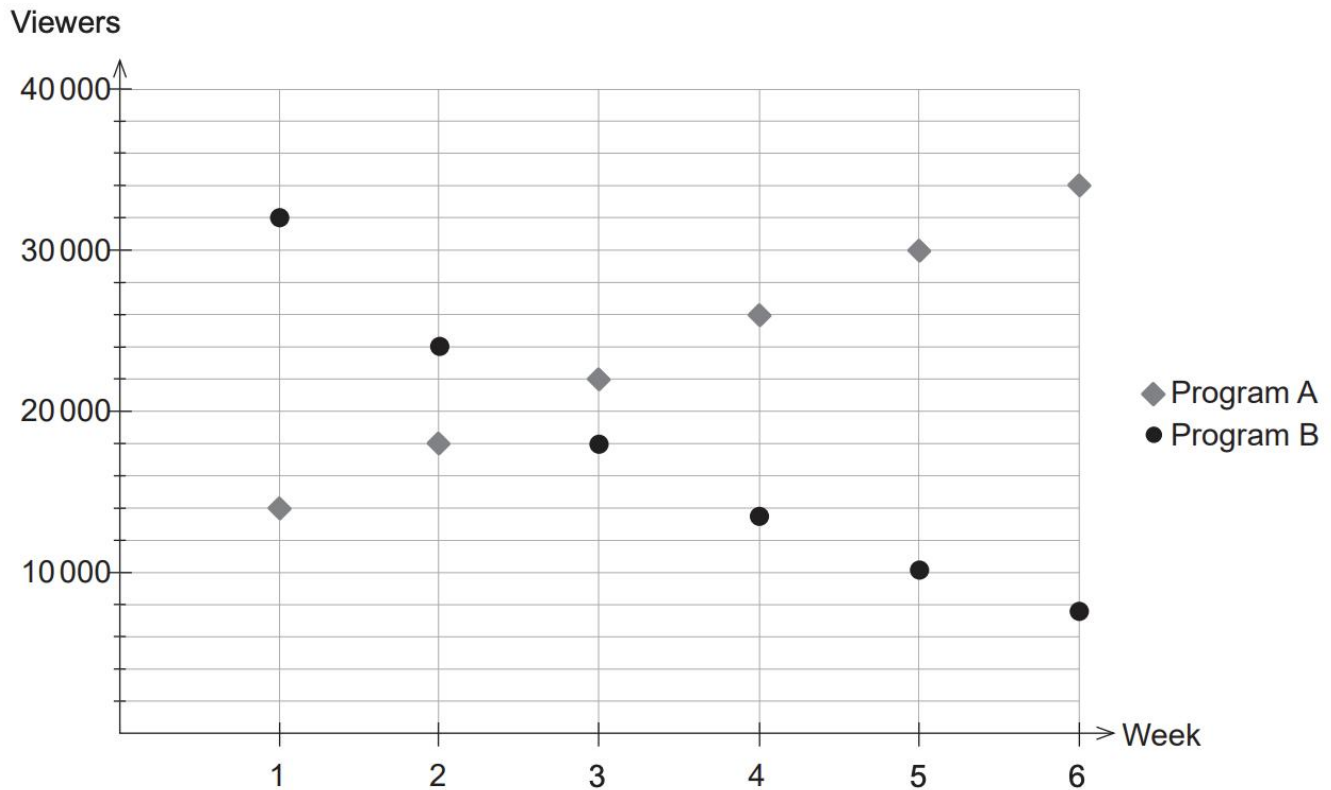


Question 6**(7 marks)**

A television network programmer was analysing the number of viewers for two children's programs over a period of several weeks, to decide which program should be given the better time slot. The viewing numbers, displayed on the graph below, formed an arithmetic sequence and a geometric sequence.



(a) Write a recursive rule for the arithmetic sequence. (2 marks)

(b) Using the first two data points, deduce a rule for the n^{th} term of the geometric sequence. (2 marks)

- (c) Explain which program should be given the better time slot. (2 marks)
- (d) Determine the number of viewers for the more successful program in Week 8. (1 mark)