8 **(a)** In an arithmetic progression, the sum of the first 30 terms is -1065.
The sum of the **next** 20 terms is -2210.
Find the first term and the common difference. [5]

(b) A geometric progression is such that the first term is 4 and the sum of the first three terms is 7.

Find the two possible values of the common ratio and find the sum to infinity for the convergent progression. [5]