

- 8**    **(a)** The sum,  $S_n$ , of the first  $n$  terms of an arithmetic progression is given by  $S_n = 32n - n^2$ . Find the first term and the common difference. [3]
- (b)** A geometric progression in which all the terms are positive has sum to infinity 20. The sum of the first two terms is 12.8. Find the first term of the progression. [5]