

- 4** The first term of an arithmetic progression is a and the common difference is -4 . The first term of a geometric progression is $5a$ and the common ratio is $-\frac{1}{4}$. The sum to infinity of the geometric progression is equal to the sum of the first eight terms of the arithmetic progression.

(a) Find the value of a .

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The k th term of the arithmetic progression is zero.

(b) Find the value of k .

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