8 (a) Over a 21-day period an athlete prepares for a marathon by increasing the distance she runs each day by 1.2 km. On the first day she runs 13 km.

(i) Find the distance she runs on the last day of the 21-day period. [1]

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(ii) Find the total distance she runs in the 21-day period. [2]

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(b) The first, second and third terms of a geometric progression are x, $x - 3$ and $x - 5$ respectively.

(i) Find the value of x. [2]

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(ii) Find the fourth term of the progression. [2]

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(iii) Find the sum to infinity of the progression. [2]

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