10 The first three terms of an arithmetic progression are $\lg x$, $\lg x^5$, $\lg x^9$, where $x > 0$.

(a) Show that the sum to n terms of this arithmetic progression can be written as $n(pn-1)\lg x$, where p is an integer. [4]

(b) Hence find the value of n for which the sum to n terms is equal to $4950\lg x$. [2]

(c) Given that this sum to n terms is also equal to -14850, find the exact value of x. [2]