23 Given that n is a positive integer,

the nth term of sequence S is given by the expression $n + 3$

and   the nth term of sequence T is given by the expression $n^2 - 9$

(a) Find the 12th term of sequence T.

....
(1)

Given also that the rth term of sequence T is 46 times the rth term of sequence S,

(b) find the value of r.

$r =$ ....
(3)

(Total for Question 23 is 4 marks)