An arithmetic progression has first term 4 and common difference d. The sum of the first n terms of the progression is 5863.

(a) Show that $(n-1)d = \frac{11726}{n} - 8$. [1]

.....

.....

.....

.....

.....

.....

.....

.....

(b) Given that the nth term is 139, find the values of n and d, giving the value of d as a fraction. [4]

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....