

Different Products

Cut out the statements and put them in order, to prove that when you have n consecutive numbers, the difference between the product of the first and last numbers, and the product of the second and penultimate numbers, will be n-2.

The last number (n^{th}) will be $a + n - 1$	А
$(a+1)(a+n-2) = a^2 + an - a + n - 2$	В
Therefore the difference between the product of the first and last numbers, and the product of the second and penultimate numbers, will be $n-2$	С
Let the first number be <i>a</i>	D
The product of the second and penultimate numbers will be $(a+1)(a+n-2)$	Е
The second number will be $a + 1$	F
The product of the first and last numbers will be $a(a + n - 1)$	G
Start by taking a set of n consecutive numbers	Н
$a(a+n-1) = a^2 + an - a$	I
The penultimate number will be $a + n - 2$	J