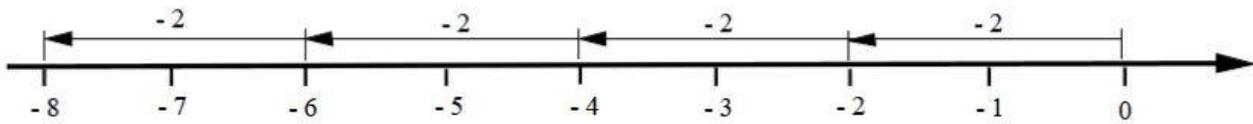


## My response to a challenge by a tutor at teacher's training college was to show that products of negative numbers are positive

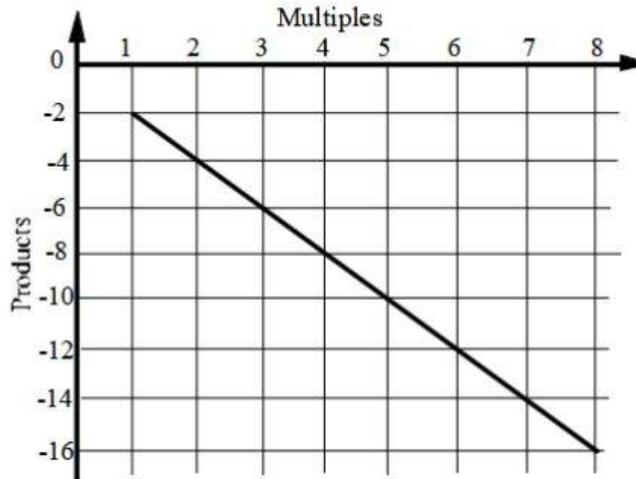
### Products of Negative Numbers

Before looking at products of two negative numbers, we note that products of positive and negative numbers are negative. For example here is how  $4 \times -2$  is shown (by repeated addition along the number line) to be equal to  $-8$ :

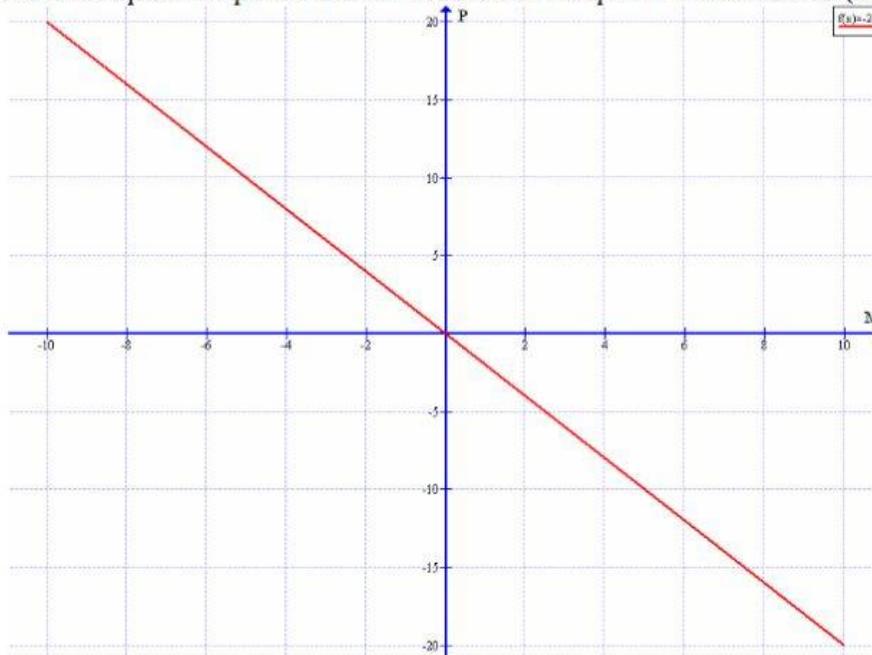


There are of course an infinite number of positive multiples of  $-2$ . We plot a graph below showing some of these:

Multiples	1	2	3	4	5	6	7	8
Products	-2	-4	-6	-8	-10	-12	-14	-16



Since there are an infinite number of multiples of  $-2$ , this graph line can be extended as far as we like as shown below. We then find that  $-5$  on the M-axis corresponds with  $10$  on the P-axis. This means that the product of  $-5$  and  $-2$  is  $10$ . In fact any negative multiple of  $-2$  corresponds to a positive number. We have used multiples of  $-2$  to demonstrate (not prove!) the rule:



**Graph of  $f(x) = -2x$**

Showing that the product of two negative numbers is a positive number