

Eric the Sheep is at the end of a line of sheep waiting to be shorn. Being an impatient sheep, Eric sneaks up two places every time the shearer takes a sheep to be shorn. For example, while the first sheep is being shorn, Eric moves ahead so that there are two sheep behind him. If at some point it is possible for Eric to move only one place, he does that instead.

You may want to use centimeter cubes, where possible, to act out the line of sheep.

1.	Complete the number part of the attached table for sheep in line to help you answer the questions below.		
2.	If there were 6 sheep in front of Eric (7 th in line), Eric was sheep shorn number...		
3.	If there were 11 sheep in front of Eric (12 th in line), Eric was sheep shorn number...		
4.	How many sheep get shorn before Eric if he was originally the 50 th sheep waiting to be shorn?		
5.	Look for pattern between his original position in line and when he gets shorn. Think of our input and output machines. Complete the variable part of the table which has the variables.		
6.	If Eric was 9 th in line, Eric was sheep shorn number...		
7.	If Eric was 37 th in line, Eric was sheep shorn number...		
8.	If Eric was 1,001 st in line, how many sheep were shorn before Eric?		
9.	If there were 7,695 sheep in front of Eric, Eric was sheep shorn number...		
10.	If Eric were the 4 th sheep shorn, where did he start in line? (Hint: There is more than one answer.)		
11.	If Eric were the 25 th sheep shorn, where did he start in line?		
12.	If Eric were the 217 th sheep shorn, where did he start in line?		
13.	If there were 673 sheep shorn before Eric, where did he start in line?		



ERIC THE SHEEP (and friends)

Place In Line			Sheep In Front of Eric			Sheep Shorn Before Eric	Eric was sheep shorn number...
1			0			0	1
2			1			1	2
3			2			1	2
4			3				
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
			20				
						10	
							13
x						**	**
			y			**	**
*	*	*	*	*	*	a	
*	*	*	*	*	*		b

* Simplify all answers (distribute, combine all like terms).

** These boxes will have “rounding” as part of the answer.