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## Combining lengths

I started out with how many consecutive lengths I could do with the rods 3, 4, 5.


1 =  I had a 4 length rod,  
then I took away a 3 length rod to make


2 =  I had a 5 length rod,  
then I took away a 3 length rod to make

3 = You have a 3 length rod

4 = You have a 4 length rod

5 = You have a 5 length rod

6 =  I added the 5 and 4 length  
rod together then subtracted  
to make 6

7 =  I added 4 and 3 <sup>lengthed</sup> rods  
together to make 7

8 =  I added 5 and 3 lengthed  
rods to make 8


9 =  I added 5 and 4 lengthed  
rods to make 9

That is the consecutive lengths 3, 4 and 5 can do.

Now I am going to investigate what happens when you have a 1 length rod as well as 3 other rods.

1 = You have already got one


~~2 =~~


2 =  I have a 3 length rod then I take away 1 to make 2


3 = You have a 3 length rod

4 = You have a 4 length rod

5 = You have a 5 length rod

6 =  I have added a 5 length rod to a 1 length rod to make 6

7 =  I have added a 4 length rod to a 3 length rod to make 7

8 =  I have added a 5 length rod to a 3 length rod to make 8

9 =  I have added a 5 length rod to a 4 length rod to make 9

10 =  I have added a 5 length rod a 4 length rod and a 1 length rod to make 10

11=



I added 5, 4 and 3 then minus 1 to make 11

12=



I added 5, 4 and length rods together to make 12

13=



I added 5, 4, 3 and 1 together to make 13

I have noticed that by just adding one you can get more measurements. I have also noticed with other rods that if you add 1 you can get even more measurements. For example you have rods 5, 6, 7. You can only go up to 5 consecutive lengths but if you add 1 you can go up to 14 consecutive lengths.

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