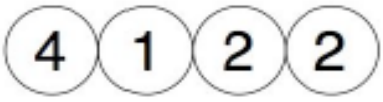
Lakelands Challenge 1—Target 15

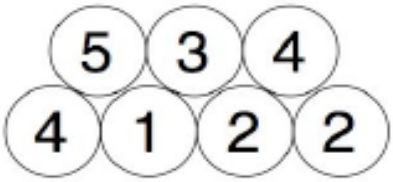
(if you wish to enter for a prize, present your findings as an A3 poster and send to Mrs Heath, c/o Lakelands Academy, Oswestry Road, Ellesmere, SY12 0EA

Target 15

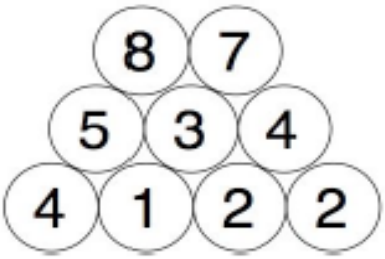
We start with any four numbers (not zero!):



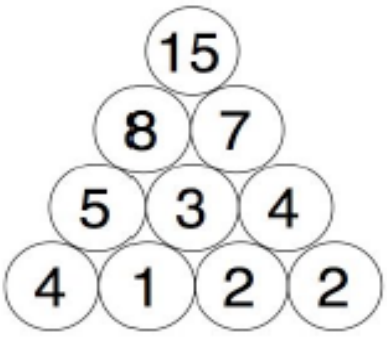
We then add them in pairs and place the total above each pair:



And we then add in pairs the new numbers:



We do the same with those two numbers to get our final number:



You need to find four starting numbers to place at the bottom so that when you get to the top you reach 15.

Try to find as many starting numbers as you can.

Lakelands Challenge 2—Fibs

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Fibs

The Fibonacci sequence is

1,1,2,3,5,8,13,21...

where each term is the sum of the two terms that go before it (i.e 1+1=2, 1+2=3, 2+3=5 and so on.)

What is the sixth term of the Fibonacci type sequence that starts with 2 and 38 as the first two terms?

How many Fibonacci type sequences can you find containing the number 196 as one of the terms where the sequence starts with two whole numbers a and b with $a<b$?