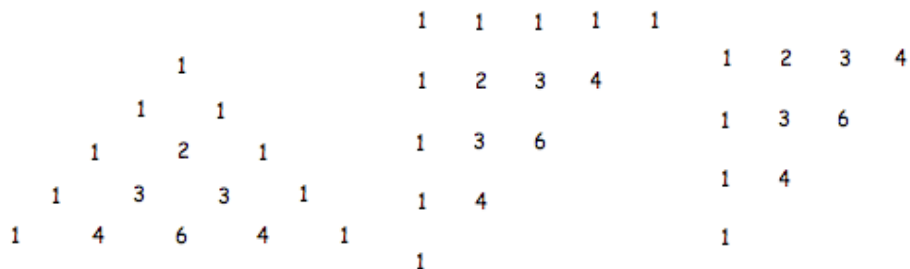# Take home activities: Get Lucky!

Stage: 3 ★ ★ ★

In how many ways can a pound (value 100 pence) be changed into some combination of 1, 2, 5, 10, 20 and 50 pence coins? Remember, the aim is not just to get the answer but to find a good method and to explain it well.

Small Change
https://nrich.maths.org/754

Stage: 3 ★

There are 30 students in a class and it is found that in any subset of 4 students from the class each student has exchanged Christmas cards with the other three. Show that some students have exchanged cards with all the other students in the class. How many such students are there?

Greetings
https://nrich.maths.org/615

Stage: 2 and 3 ★ ★

I think that it's time to look at Pascal's Triangle afresh. So, let's see what happens when we turn it around in a special way.
So we start with the layout as usual, turn it anticlockwise 45 degrees and then take off the top line of ones.

Investigating Pascal's Triangle
https://nrich.maths.org/5593

```
                              1   1   1   1   1
              1                                       1   2   3   4
          1       1           1   2   3   4
                                                     1   3   6
       1      2       1       1   3   6
                                                     1   4
    1      3      3       1   1   4
                                                     1
  1     4      6      4      1   1
                              1
```