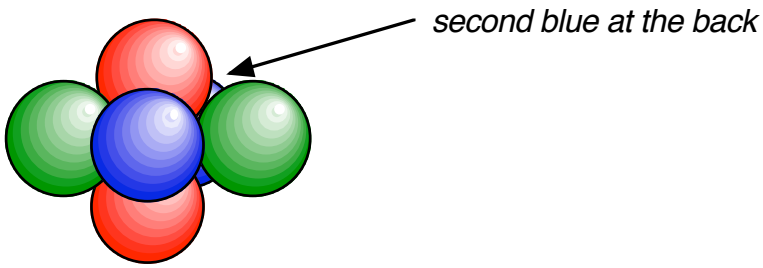
Six Of The Best

Answers Series 3

1. The six marbles have to be arranged as vertices of an octahedron:



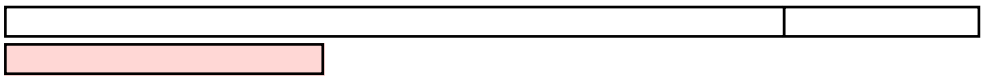
2. This one took some clever research! Those who did it found a listing of Pi to 1.2 million places via Project Gutenberg on the Internet, and carefully counted their way through:

There are 50 digits of decimals (after the initial 3.) in each row. The first row looks like this:
1415926535 8979323846 2643383279 5028841971 6939937510

The 20 000th row looks like this:
5678796130 3311646283 9963464604 2209010610 5779458151

so the 999 999th digit after the decimal point is that little 5 .

3. Put the two pieces end to end in a straight line:



Then the average length of the three cut pieces has to be one third of this total length.
So we simply cut one third of the way along the longer piece.

4. **7727 x 9949 = 76875923**

5. The paper squares were placed in this order: **CEBFHGDA**

6. Each row describes the grouping of the digits in the line above. To describe the line:

31131211131221

we therefore say (reading left to right): One Three, two Ones, one Three, one One, one Two, three Ones, one Three, one One, two Twos and one One. In its “number translation” this is:

13211311123113112211