Six Of The Best !

Six challenges to set you thinking:
How many can you solve.....?
Answers to me by the end of term, please

1. Calculate the following (exactly!):

$$77777777 \times 99999999$$

2. How many squares are there on a chess board ?

3. What is the only number (apart from 1) which divides exactly into 163231, 152057, and 135749 ?

4. On average, how many times must you roll a dice in order to get one of each number?

5. Given only one of each letter in the alphabet, what are the smallest and largest numbers that you could write down?

6. A parcel measures 15 x 25 x 40 cm. What is the smallest rectangular area of paper needed to wrap it ?

Series 1 November 1996