



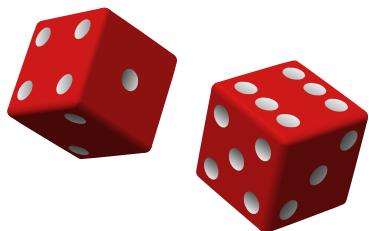
Problem of the Week

Problem B

These are Sum Products

Ahmed has two number cubes which he rolls ten times. Each of the 10 rolls gives a **different** combination of the two numbers on the top face (Note, for example, that 5 on the first cube and 1 on the second cube is the same combination as 1 on the first cube and 5 on the second cube). Ahmed finds the product of each pair of numbers and then sums the ten resulting products.

- Complete the chart of products.
- What is the set of ten rolls with the lowest possible sum of the products?
- What is the set of ten rolls with the highest possible sum of the products?
- Determine 2 different possible sets of ten rolls such that the sum of products is equal to 100. The first set must include every possible roll involving a 3 on at least one of the cubes. The second set must not include any roll with a 3 on either cube.



	1	2	3	4	5	6
1	1	2	3	4	5	6
2	2	4	6	8	10	12
3	3					
4	4					
5	5					
6	6					

