

### The Problem

Two numbers are chosen at random from the numbers on the grid. Find the probability that the two numbers are perfect cubes.

1156	121	225	4	1296	676	2704	900
49	784	1764	2916	400	3025	36	2025
1444	2601	1	841	1024	324	3721	256
3481	81	529	3136	9	2500	1225	3364
144	1681	3600	361	1936	16	576	1600
961	2809	289	64	4096	1849	169	2304
2401	25	2116	1369	196	3969	1521	441
100	3844	729	625	2209	484	3249	1089

### Strategies and Hints

1. The denominator of the probability fraction is the number of ways 2 items can be chosen from the items on the grid. Write this probability using factorial notation.
2. Find a way to describe the numbers on the grid.
3. Consider that  $(a^2)^3 = (b^3)^2$  is true when  $a = b$ . What is true of a number that is both a perfect square and a perfect cube?