

Question:

How many 4-digit numbers can be formed from the digits 2, 3, 4, 7 and 9? How many of these numbers are less than 4000?

Answer:

Since there are 5 available digits, the 4 digit number that can be formed are  $(5) \cdot (5) \cdot (5) \cdot (5) = 625$ .

For the value of the 4-digit number to be less than 4000, we only have two choices for the first digit, namely 2 or 3. After that we can choose the other two digits freely. The answer is thus  $(2) \cdot (5) \cdot (5) \cdot (5) = 250$ .