Combinations and Permutations

✒️ *Calculate the value of each.*

1) $4! =$ _____

2) $4! \times 3! =$ _____

3) $5! =$ _____

4) $6! + 3! =$ _____

5) $7! =$ _____

6) $8! =$ _____

7) $4! + 4! =$ _____

8) $4! - 3! =$ _____

✒️ *Solve each word problems.*

9) Susan is baking cookies. She uses sugar, flour, butter, and eggs. How many different orders of ingredients can she try? _____

10) Jason is planning for his vacation. He wants to go to museum, watch a movie, go to the beach, and play volleyball. How many different ways of ordering are there for him? _____

11) How many 5-digit numbers can be named using the digits 1, 2, 3, 4, and 5 without repetition? _____

12) In how many ways can 5 boys be arranged in a straight line? _____

13) In how many ways can 4 athletes be arranged in a straight line? _____

14) A professor is going to arrange her 7 students in a straight line. In how many ways can she do this? _____

15) How many code symbols can be formed with the letters for the word WHITE? _____

16) In how many ways a team of 8 basketball players can to choose a captain and co-captain? _____

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Answers

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1) 24	7) 48	13) 24
2) 144	8) 18	14) 5,040
3) 120	9) 24	15) 120
4) 726	10) 24	16) 56
5) 5,040	11) 120	
6) 40,320	12) 120	

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