

F.Y.I.
 $P(7,3) = 7P_3$

WHY SHOULD YOU NEVER ALLOW A MATHEMATICIAN TO SET YOUR HAIR?

Evaluate the permutation or combination and match with a correct numerical result.

1) $P(7, 3) =$	2) $P(7, 4) =$	3) $C(7, 3) =$	4) $C(7, 4) =$	5) $P(4, 7) =$
6) $P(7, 7) =$	7) $C(7, 7) =$	8) $P(7, 1) =$	9) $C(7, 1) =$	10) $C(7, 0) =$

Result

A. 1	B. 6	E. 210	M. 35	N. 343	O. 5040
P. 24	T. 7	U. 840	W. 823,543	X. 2401	Y. 0

Match with the expression that will give a correct result to each problem.

- 11) How many different ways can the letters VWXYZ be arranged (without repetition)?
- 12) How many different ways can the letters VWXYZ be arranged if repetition is allowed?
- 13) How many different three-letter "words" (with no letters repeated) are formed from the letters VWXYZ?
- 14) How many different three-letter "words" (allowing repeated letters) are formed from the letters VWXYZ?
- 15) How many different three-letter sets are formed from the letters VWXYZ?
- 16) In a class of 24 students, how many different ways could a first, second, and third prize be awarded if no student is allowed to win twice?
- 17) In a class of 24 students, how many different committees of 3 can be chosen?
- 18) In a class of 14 boys and 10 girls, how many different committees of 3 boys and 3 girls be chosen?
- 19) In a class of 14 boys and 10 girls, how many different committees of either 3 boys or 3 girls be chosen?
- 20) How many different ways can a class of 24 students line up?
- 21) How many distinguishable permutations are made from the word DADDY?
- 22) How many distinguishable permutations are made from the word STATISTICS?

Result

A. 5^3	C. 3^5	E. 5^5	G. $5!$	I. $24!$
K. $10!$	M. $P(5, 3)$	N. $C(5, 3)$	O. $5!/3!$	P. $10!/3!3!2!$
R. $P(24, 3)$	T. $C(24, 3)$	U. $C(14, 3) \cdot C(10, 3)$	Y. $C(14, 3) + C(10, 3)$	

5	21	18	3	10	19	11	1	9				
7	22	12	16	4	13	2	17	14	8	20	6	15

21) $5!$ ← 5 letters
 $\frac{5!}{3!}$ ← 3 "D's"
 22) $10!$
 $\frac{10!}{3!3!2!}$