

21 = 2 X 1 = 2

Combinations

n! (n-x)!

(order does not matter)

(n) or (n or c(n, x)

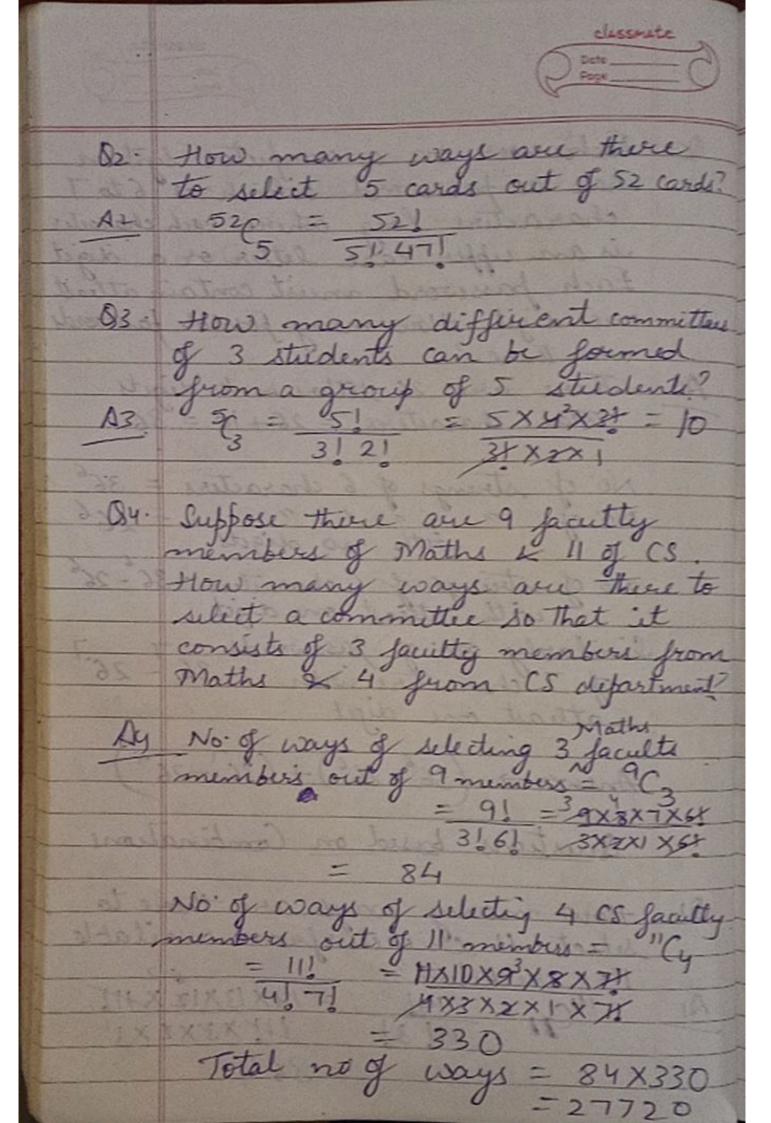
31 = 3x2x1 = 6

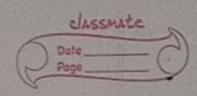
ng= el ma. Questions based on FPC &1 How many 3 digit no's can be formed using the digite 1,2,3,4,5,6 if supetition of digits is allowed supetition of digits is not allowed repetition is not allowed a no should be divisible by 5 6 × 6 × 6 = 216 Al a 6X5X4 = 120 T (onlys) 12. How many 3 digit no's can be formed using the digits 0-9 if a) repetition of digits is allowed to not " 9x 10x 10 = 900 (excepto) TO 9×9×8 = 648 09 -> and - 3 X Note

many different no 26 x 10 x 10 x 10 x 10 = 26 x 10 Case II 2 letters. 26 × 26 × 109 = 26° × 104 Case III 3 letters 26×26×26 ×10 = 26 × 10 Answer - (26 × 104) + (262 × 104) + (263 × 104) thow many 3 digit even num can be formed if no repetition Case II, , 6 or 8 at one's place 72 + 256 = 328

Classmate Date Page

& Each user on a computer system has a password which is 6 to 7 characters long where each character is an upper case letter or a doct Each password must contain attest one digit. How many possible fasswords As There are 26 letters is to digets Total characters = 26+10 = 36 No of strings of 6 characters = 366 No of with no digits = 266 No of strings of 6 characters = 36 - 26 Similarly no of passwords 7 7 7 of 7 characters with = 36 - 26 atteast one diget Answer - (36 - 26') + (36 - 26") Questions based on Combinations How many ways are there to select II cuckets from available 14 wicketisis? = 364





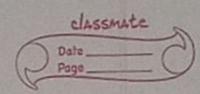
There are 6 men & Twomen in a group. How many different committees of 5 members can be formed if the committee should have 2 men & 3 women? AS NO 6M TW 6C, X 7C2 If nC12 = nC8 then find the value of n.

We know that nCx = nCn-x

=> nC8 = nCn-8 A6 n= 12+8 n= 20

Cope O

Question based on permetations Ost How many words can be formed using all letters of the word CHAPTER? Al No of words that can be formed ching all letters of the word CHAPTER = TP7 = 71 = 7×6 ×5×4×3×2×1 = 5040 a) How many words can be formed using all letters of the word a) APPLE b)MISSISSIPPI C) MATHEMATICS Az a) APPLE 5 letters with 2P's No. of words = 5' = 120 = 60 b) MISSISSIPPI 11 letters with 45, 4 I, 2P No. of words = 111 4! 4!21 C) MATHEMATICS 11 letters with 2M, 2A, 2T No of words = 111



In how many ways 6 girls can be seated in a ex row having 6 chairs? A3 No of seating averangements = P2 = 61 = 6×5×4×3×2×1 Q4. In how many ways letters of the word FATHER be acronged? How many of these words begin with T & end with R? FATHER has 6 letters. Total no g words = 6P = 61 = 720 No of words beginning with Te ending with R (First & last place is fixed) = 4Py = 41 = 4x3xxx1 = 24 Qs. How many words can be formed using all the letters of the word DAVGHTER' such that vowels are always together? DAUGHTER -> 8 letters 3 vowels (A, U, E) 5 consonants (D, G, H, I, Consider A, U, E as one letter Now there are 6 letters D, G, H, T, R, QUE which can be averanged in 6P6 = 61 = 6XSXYX3X2X1 = 720 ways

