



ST. LAWRENCE HIGH SCHOOL
A JESUIT CHRISTIAN MINORITY INSTITUTION



Solutions of Worksheet-22

SUBJECT – MATHEMATICS

2nd-term

Chapter: Algebra

Class: XI

Topic: Combinations

Date: 14.11.2020

Choose the correct option **(1 X 15= 15)**

1. If ${}^{20}C_r = {}^{20}C_{r-10}$, then ${}^{18}C_r$ is equal to
(a) 4896 (b) 816 (c) 1632 (d) none of these
2. If ${}^{20}C_r = {}^{20}C_{r+4}$, then rC_3 is equal to
(a) 54 (b) 56 (c) 58 (d) none of these
3. If ${}^{15}C_{3r} = {}^{15}C_{r+3}$, then r is equal to
(a) 5 (b) 4 (c) 3 (d) 2
4. If ${}^{20}C_{r+1} = {}^{20}C_{r-1}$, then r is equal to
(a) 10 (b) 11 (c) 19 (d) 12
5. If $C(n, 12) = C(n, 8)$, then $C(22, n)$ is equal to
(a) 231 (b) 210 (c) 252 (d) 303
6. If ${}^mC_1 = {}^nC_2$, then
(a) $2m = n$ (b) $2m = n(n+1)$ (c) $2m = n(n-1)$ (d) $2n = m(m-1)$

7. If ${}^nC_{12} = {}^nC_8$, then $n =$
 (a) 20 (b) 12 (c) 6 (d) 30
8. If ${}^nC_r + {}^nC_{r+1} = {}^{n+1}C_x$, then $x =$
 (a) r (b) $r - 1$ (c) n (d) $r + 1$
9. If $(a^2 - a)C_2 = (a^2 - a)C_4$, then $a =$
 (a) 2 (b) 3 (c) 4 (d) none of these
10. ${}^5C_1 + {}^5C_2 + {}^5C_3 + {}^5C_4 + {}^5C_5$ is equal to
 (a) 30 (b) 31 (c) 32 (d) 33
11. Total number of words formed by 2 vowels and 3 consonants taken from 4 vowels and 5 consonants is equal to
 (a) 60 (b) 120 (c) 7200 (d) none of these
12. There are 12 points in a plane. The number of the straight lines joining any two of them when 3 of them are collinear, is
 (a) 62 (b) 63 (c) 64 (d) 65
13. Three persons enter a railway compartment. If there are 5 seats vacant, in how many ways can they take these seats?
 (a) 60 (b) 20 (c) 15 (d) 125
14. In how many ways can a committee of 5 be made out of 6 men and 4 women containing at least one woman?
 (a) 246 (b) 222 (c) 186 (d) none of these
15. There are 10 points in a plane and 4 of them are collinear. The number of straight lines joining any two of them is
 (a) 45 (b) 40 (c) 39 (d) 38

1.a , 2.b , 3.c , 4.a , 5.a , 6.c , 7.a , 8.d , 9.a , 10.b , 11.c , 12.c , 13.a , 14.a , 15.b

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