Chapter 08 (Objectives)

MATHEMATICAL INDUCTION & BINOMIAL THEOREM

TEXTBOOK OF ALGEBRA AND TRIGONOMETRY FOR CLASS XI

Fill in the blanks

1. …… devised the method of induction.
2. …… is used to prove that the sum of first n positive integers equals n^2.
3. The properties of integer can be proved by ……
4. The case or exception which fails the mathematical formula or statement is called …….
5. The …….. of a formula is established if it is true for each element of set under consideration.
6. The method of mathematical induction is used to avoid ……
7. The method of mathematical induction is used to prove statement relating to sets of ……. and ……. numbers.
8. In mathematical induction, we suppose that statement is true for positive integer k, we show that it is true for ……
9. A statement in mathematical induction for which only one condition of mathematical induction satisfies is ……
10. There is no integer n for which 3^n is …….
11. The principle of …… is used to prove $S(i)$ is true for $i \neq 1$.
12. An algebraic expression consisting of two terms is called …….. expression.
13. The formula for expansion of a binomial raised to any positive integral power is called ……
14. $(a+x)^n =$ …….
15. The rules of binomial theorem also hold if a and x are ……
16. $\binom{n}{0}, \binom{n}{1}, \binom{n}{2}, \ldots\ldots\ldots\ldots, \binom{n}{n}$ are called ……
17. In expansion of $(a+x)^n$, the number of terms are …….. that its index.
18. The sum of exponents of a set a and x in binomial expansion is …….. to its index.
19. $T_{r+1} =$ ……..
20. $T_{r+1} = \binom{n}{r} a^{n-r} x^r$ is called …… of the expansion.
21. In expansion of $(a+x)^n$, total number of terms is …….
22. If the term of expansion $(a+x)^n$ is independent of x, the exponent of x is ……
23. The sum of coefficients of a binomial expansion equals to ……..
24. The sum of odd coefficients of a binomial expansion equals to the sum of its ……. coefficients.
25. Symbols $\binom{n}{0}, \binom{n}{1}$, etc are meaningless when n is a …….. or …….
26. If n is negative number or fraction, then $T_{r+1} =$ …….
27. The binomial series are used for …….. of infinite sets.

KEY (CHAPTER 7)

01- Francesco Mourolico
02- Mathematical Induction
03- Mathematical Induction
04- Counter example
05- Validity
06- Infinite
07- Natural, whole
08- $k+1$
09- False
10- Even
11- Extended Mathematical Induction
12- Binomial
13- Binomial Theorem
14- $\sum_{r=0}^{n}\binom{n}{r}a^{n-r}x^{r}$
15- Complex
16- Binomial Coefficient
17- One greater
18- Equal
19- $\binom{n}{r}a^{n-r}x^{r}$
20- General term
21- $n+1$
22- Zero
23- 2^{n}
24- Even
25- Negative number, fraction
26- $\frac{n(n-1)(n-2).....(n-r+1)}{r!}x^{r}$
27- Summation

The End

Provided by: Adil Rauf & Muhammad Nabil (F.Sc. Part I, FAZMIC Sargodha)
Session: 2003-05

Composed by: Atiq ur Rehman (http://www.mathcity.tk)