Assignment 4

1. Which of the following are even-ordered binomial expansions?
   a. \((x+y)^2\)
   b. \((x+y)^3\)
   c. \((x+y)^4\)
   d. \((x+y)^5\)

2. The binomial theorem for \((x+y)^n\) can be expressed as:
   a. \(\sum_{k=0}^{n} \binom{n}{k} x^{n-k} y^k\)
   b. \(\sum_{k=0}^{n} \binom{n}{k} x^k y^{n-k}\)
   c. \(\sum_{k=0}^{n} \binom{n}{k} x^{n-k} y^k + \binom{n}{k} x^k y^{n-k}\)
   d. None of the above

3. Which of the following are odd-ordered binomial expansions?
   a. \((x+y)^2\)
   b. \((x+y)^3\)
   c. \((x+y)^4\)
   d. \((x+y)^5\)

4. Which of the following represents the general term of the binomial expansion of \((a+b)^5\)?
   a. \(\binom{5}{k} a^{5-k} b^k\)
   b. \(\binom{5}{k} a^k b^{5-k}\)
   c. \(\binom{5}{k} a^{5-k} b^k + \binom{5}{k} a^k b^{5-k}\)
   d. None of the above

5. The general term of a binomial expansion is:
   a. \(\binom{n}{k} a^{n-k} b^k\)
   b. \(\binom{n}{k} a^k b^{n-k}\)
   c. \(\binom{n}{k} a^{n-k} b^k + \binom{n}{k} a^k b^{n-k}\)
   d. None of the above

6. Which of the following binomial expansions are even-ordered?
   a. \((x+y)^2\)
   b. \((x+y)^3\)
   c. \((x+y)^4\)
   d. \((x+y)^5\)

7. Which of the following is an odd-ordered binomial expansion?
   a. \((x+y)^2\)
   b. \((x+y)^3\)
   c. \((x+y)^4\)
   d. \((x+y)^5\)

8. The general term of a binomial expansion is:
   a. \(\binom{n}{k} a^{n-k} b^k\)
   b. \(\binom{n}{k} a^k b^{n-k}\)
   c. \(\binom{n}{k} a^{n-k} b^k + \binom{n}{k} a^k b^{n-k}\)
   d. None of the above

9. The binomial theorem for \((x+y)^n\) can be expressed as:
   a. \(\sum_{k=0}^{n} \binom{n}{k} x^{n-k} y^k\)
   b. \(\sum_{k=0}^{n} \binom{n}{k} x^k y^{n-k}\)
   c. \(\sum_{k=0}^{n} \binom{n}{k} x^{n-k} y^k + \binom{n}{k} x^k y^{n-k}\)
   d. None of the above

10. Which of the following is odd-ordered?
    a. \((x+y)^2\)
    b. \((x+y)^3\)
    c. \((x+y)^4\)
    d. \((x+y)^5\)