Kuta Software - Infinite Algebra 2 Name_____

The Binomial Theorem

Date_____ Period____

Find each coefficient described.

1) Coefficient of x^2 in expansion of $(2 + x)^5$

2) Coefficient of x^2 in expansion of $(x + 2)^5$

3) Coefficient of x in expansion of $(x + 3)^5$

4) Coefficient of b in expansion of $(3 + b)^4$

5) Coefficient of x^3y^2 in expansion of $(x - 3y)^5$

6) Coefficient of a^2 in expansion of $(2a + 1)^5$

7) Coefficient of a^2b^2 in expansion of $(a - b)^4$

8) Coefficient of m^3n^2 in expansion of $(m + 3n)^5$

Find each term described.

9) 2nd term in expansion of $(y - 2x)^4$

10) 4th term in expansion of $(4y + x)^4$

11) 2nd term in expansion of $(3u - 1)^3$

12) 3rd term in expansion of $(y - 4)^3$

13) 1st term in expansion of $(a + b)^5$

14) 2nd term in expansion of $(y - x)^4$

Expand completely.

15) $(2n + 1)^5$

16) $(x + y)^4$

17) $(2m - 1)^4$

18) $(x - 3y)^5$

19) $(v - 2)^3$

20) $(x - y)^3$

21) $(x^4 - y)^5$

22) $(2x^3 + 1)^5$

23) $(y - x^2)^3$

24) $(y^3 - 4x)^3$

Topic: Sequences and Series
Binomial Theorem
Homework

Name: _____
Date: _____

Evaluate each expression.

1. $5!$

2. $\dfrac{7!}{3!(7-3)!}$

3. $\dfrac{10!}{7!3!}$

Use Pascal's Triangle to expand each binomial.

4. $(a+b)^3$

5. $(a+3b)^4$

6. $(x-3)^3$

7. $(2x+3y)^3$

8. $(4-x)^3$

9. $(1+i)^4$