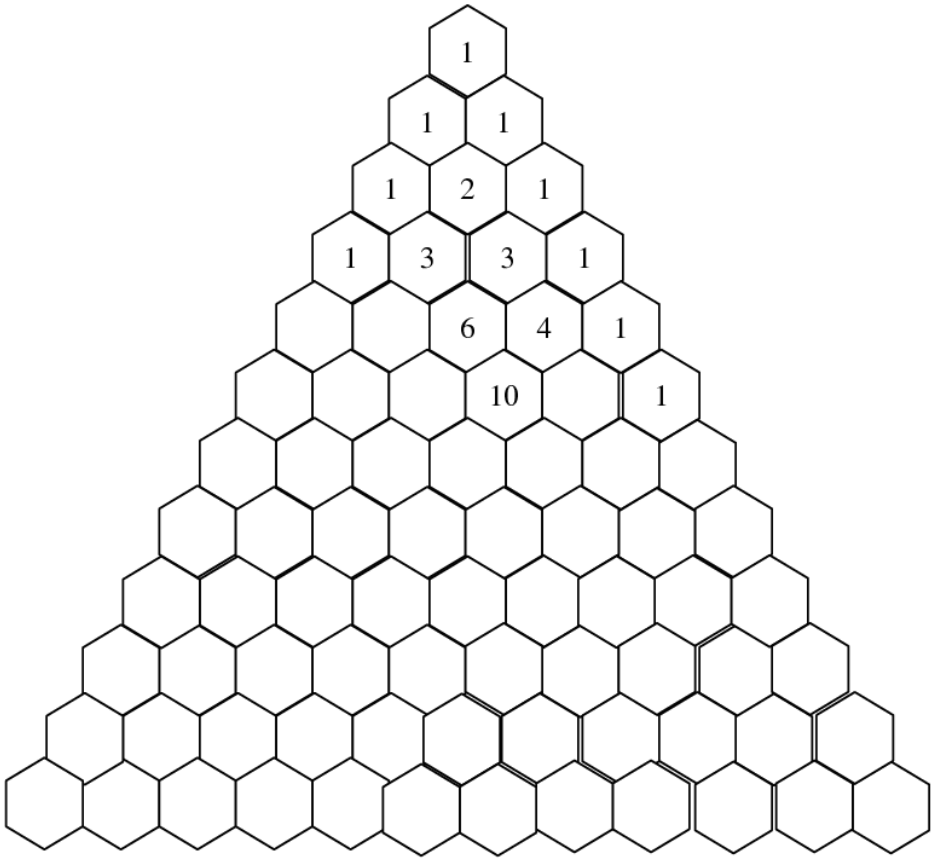
HW 7-2H
Binomial Theorem

Name_____
Period_____

Finish filling in Pascal's Triangle:



Use the Binomial Theorem to expand each power of a binomial.

3. $(x + 6)^3$

4. $(x - 5)^4$

7. $(3x + 4)^5$

8. $(2x - 3)^7$

9. $(x + 2y)^5$

10. $(3x - y)^4$

14. $(4x + 3y)^6$

Use the Binomial Theorem to find the specified term of the given power of a binomial. (Remember that *r* starts at 0 in the Binomial Theorem, so finding, say, the second term means that $r = 1$.)

15. Find the fourth term in the expanded form of $(x - 1)^6$.

17. Find the third term in the expanded form of $(3x - 2y)^5$.

22. **Explain the Error** Two students used binomial expansion to expand $(a + b)^2$. Which answer is incorrect? Identify the error.

A	*B*
$(a + b)^2$	$(a + b)^2$
$1a^2b^0 + 2a^2b^1 + 1a^0b^2$	$1a^2b^2 + 2a^1b^1 + 1a^0b^0$
$a^2 + 2ab + b^2$	$a^2b^2 + 2ab + 1$

Review

State the transformations for the following functions.

a. $f(x) = -3(x+1)^3$

b. $g(x) = \sqrt{x-4} + 3$

Given the transformations, write a function.

c. absolute value: vertical stretch by 2, reflection over the x-axis, shifted up 4

d. quadratic: vertical compression by 1/3, shifted down 2