Pre-Calculus CP 1 – Section 9.5 Homework **Name:** _____

Pascal's Triangle & The Binomial Theorem

Use Pascal's Triangle and The Binomial Theorem to expand and find information about the following. Show all work, including work you may enter in your calculator.

1) Use Pascal's Triangle (or your calculator) to find the 6^{th} term in the 9^{th} row.

2) Use Pascal's Triangle (or your calculator) to find the 10^{th} term in the 18^{th} row.

3) Expand $(2x+5)^6$ using Pascal's Triangle and the Binomial Theorem.

4) Expand $(3x-4y)^5$ using Pascal's Triangle and the Binomial Theorem.

5) Find the term containing x^3 in the expansion of $(6x+2)^{10}$ using Pascal's Triangle and the Binomial Theorem.

6) Find the **coefficient** (not just found by the triangle: think of all the parts that contribute to the coefficient) of the fifth term in the expansion of $(-2x+3y)^{12}$ using Pascal's Triangle and the Binomial Theorem.