## C12-11.11-Binomial Expansion HW

Expand using FOIL.
$(x+1)^{2}$
$(x+1)^{3}$
$(x-3)^{2}$
$(x-3)^{3}$
$(a+b)^{2}$
$(a+b)^{3}$

What do you notice about the coefficients of the last two examples and Pascal's triangle?
Expand using Pascal's Triangle

$$
(x+y)^{2}
$$

$$
(x+y)^{3}
$$

$$
(x+y)^{4}
$$

$$
(x+y)^{5}
$$

## C12-11.11-Binomial Theorem WS

How many terms are in the expansion:
$(x+y)^{2}$
$(x+y)^{4}$
$(x+y)^{99}$

What is the third term in the expansion of:

$$
(x+y)^{5}
$$

$$
(x+2)^{5}
$$

What is the fifth term in the expansion of:

$$
(x-3)^{7} \quad(x-2 y)^{8}
$$

What is the 2nd term in the expansion of:

$$
\left(x^{2}+2\right)^{5}
$$

What is the term with $x^{2}$ in the expansion of:

$$
(x-3)^{7}
$$

What is the constant term in the expansion of:

$$
(x+2)^{3}
$$

