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

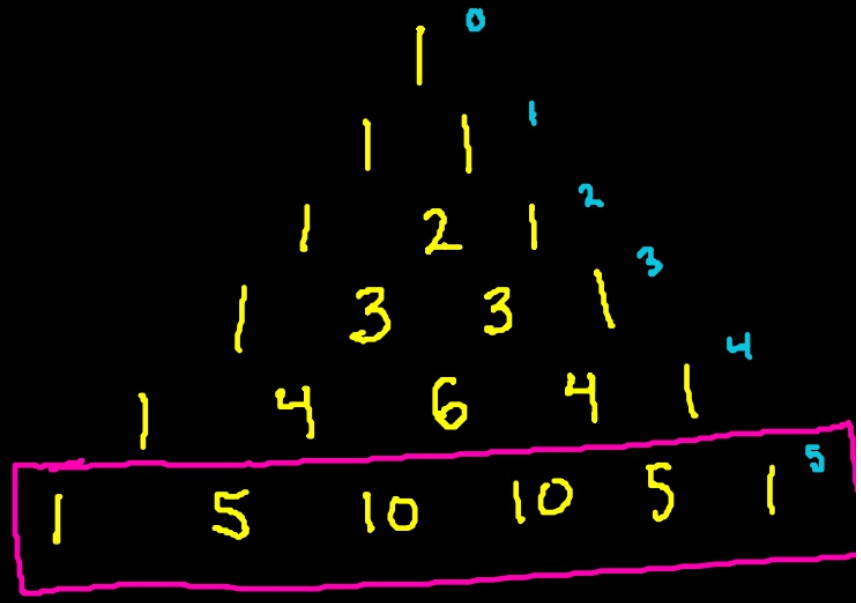
[non-calc]

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

$4x^2 - 12xy + 9y^2$

Expand $(2x - 3y)^5$

[non-calc]



$1 \cdot (2x)^5(-3y)^0$

$5 \cdot (2x)^4(-3y)^1$

$10 \cdot (2x)^3(-3y)^2$

$10 \cdot (2x)^2(-3y)^3$

$5 \cdot (2x)^1(-3y)^4$

$1 \cdot (2x)^0(-3y)^5$

Find the x^2 term

$-1080x^2y^3$

[Maximum mark: 7]

Consider the expression of $\left(2x - \frac{1}{x^2}\right)^9$

a) Write down the number of terms in the expansion. 10

b) Find the coefficient of the term independent of x.

non-calc

-5376

$\binom{9}{8}(2x)^8\left(-\frac{1}{x^2}\right)^1$

$\binom{9}{7}(2x)^2$

$84 \cdot (2x)^6 \cdot \left(-\frac{1}{x^2}\right)^3$

[Maximum mark: 6]

(a) Find the term in x^6 in the expansion of $(x+2)^9$.

(b) Hence, find the term in x^7 in the expansion of $5x(x+2)^9$.

calc

$9\ nCr\ 6 = 84$

a) $84 \cdot x^6 \cdot 2^3 = 672x^6$

b) $5x(672x^6) = 3360x^7$