ERROR ANALYSIS **Describe and correct the error in the first step to find the binomial expansion for** $(4x-3)^4$

$$(4x-3)^4 =$$

$$1(4x)^0(3)^4 - 4(4x)^1(3)^3 + 6(4x)^2(3)^2 - 4(4x)^3(3)^1 + 1(4x)^4(3)^0$$

Describe: the exponent of a should dec. and for b it should increase

Correct:

$$1(4x)^4\cancel{(3)^0} = 256x^4$$

$$4(4x)^3(3)^1 = 768x^3$$

$$6(4x)^2(3)^2 = 864x^2$$

$$4(4x)^1(3)^3 = 432x$$

$$1\cancel{(4x)^0}(3)^4 = 81$$

$$\boxed{256x^4 - 768x^3 + 864x^2 - 432x + 81}$$

7 How many terms does the binomial expansion of $\left(x^2 + 2y^3\right)^{20}$ contain?

A 20

B 21

C 40

D 60

21

Explain how to find the number of terms for a binomial expansion?

20+1 the # of terms is 1 more than the exponent

Example

Find and simplify the third term in the binomial expansion.

$(x^3 - 2y)^7$

Solution

$84x^{15}y^2$

How many terms will the answer have?