If the expression in powers of x of the function $\dfrac{1}{[(1-ax)(1-bx)]}$ is $a_0 + a_1 x + a_2 x^2 + \cdots$ then a_n is $\because$

$$(1-ax)^{-1}(1-bx)^{-1} = (1 + ax + a^2 x^2 + \cdots)$$
$$(1 + bx + b^2 x^2 + \cdots)$$

Coeff. of x^n is $\{ b^n + ab^{n-1} + a^2 b^{n-2} + \cdots$
$$+ a^{n-1} b + a^n \}.$$

$$\Rightarrow \quad \dfrac{b^{n+1} - a^{n+1}}{b-a}$$

$$\Rightarrow \quad a_n = \dfrac{b^{n+1} - a^{n+1}}{b-a}.$$

$[a^p - b^p = (a - b)(a^{p-1}b^1 + a^{p-2}b^2 + a^{p-3}b^3 \ldots\ldots\ldots\ldots +a^1 b^{p-1})]\, p \in N$

NOTE : the above formula will be discussed in the future so try to remember this formula