

Can We Expand $(x + 1)^6$?

Let's start by expanding $(x + 1)^2$

Now extend this to expand $(x + 1)^3$

Finally, try expanding $(x + 1)^4$

Now look at the **coefficients** of each of the terms:

$(x + 1)^1$		1	$x +$	1											
$(x + 1)^2$			$x^2 +$		$x +$										
$(x + 1)^3$			$x^3 +$		$x^2 +$		$x +$								
$(x + 1)^4$			$x^4 +$		$x^3 +$		$x^2 +$		$x +$						
$(x + 1)^5$			$x^5 +$		$x^4 +$		$x^3 +$		$x^2 +$		$x +$				
$(x + 1)^6$			$x^6 +$		$x^5 +$		$x^4 +$		$x^3 +$		$x^2 +$		$x +$		

Can you spot and continue the pattern? Do you know what the pattern is called?