

**Grade 7 Math**  
**Unit 1 Notes: Patterns & Relations**

## Section 1.4: Relationships in Patterns

A number pattern may be described by using the term number...

Term Number	1	2	3	4	5	6
Term	6	12	18	24	30	36

In this case each term is 6 times the term number.

We can let “n” represent any term number.

Term Number	1	2	3	4	5	6	...	n
Term	$6 \times 1 = 6$	$6 \times 2 = 12$	$6 \times 3 = 18$	$6 \times 4 = 24$	$6 \times 5 = 30$	$6 \times 6 = 36$	...	$6 \times n = 6n$

Then the term is represented by  $6 \times n$ , or  **$6n$**  (As seen in the table above)

If we compare or "relate" a variable (“n”) to an expression that contains the variable ( $6n$ ), you have a **relation**.

If we wish to determine the 15th term of this relation we substitute  $n = 15$  in the expression  $6n$ .

$$6n = 6 \times 15 = 90$$

Therefore, the 15th term of this relation is 90. The major advantage of this is we do not have to find the previous 14 numbers in the table.