Let's look at some common Natural Number Sequences.

The Even Numbers

$$t = (2)(n)$$

start with n = 0

{0, 2, 4, 6, …}

The Odd Numbers

$$t = (2)(n) + 1$$

start with n = 0

or

$$t = (2)(n) - 1$$

start with n = 0

{1, 3, 5, 7, …}

The Perfect Squares

$$t = n^2$$

{0, 1, 4, 9, …}

start with n = 0

The Perfect Cubes

$$t = n^3$$

{0, 1, 8, 27, …}

start with n = 0

Let's focus on the two different rules given for the **Odd Numbers** and see how these rules generate the sequences.

$t=(2)(n)+1$ starting with $n=0$

n = 0	n = 1	n = 2
$t=(2)(n)+1$	$t=(2)(n)+1$	$t=(2)(n)+1$
$t=(2)(0)+1$	$t=(2)(1)+1$	$t=(2)(2)+1$
$\boxed{t=1}$	$t=2+1$	$t=4+1$
	$\boxed{t=3}$	$\boxed{t=5}$
r = 1	r = 2	r = 3

The sequence is **1, 3, 5, …**; that is, the **Odd Numbers**.

$t=(2)(n)-1$ starting with $n=1$

n = 1	n = 2	n = 3
$t=(2)(n)-1$	$t=(2)(n)-1$	$t=(2)(n)-1$
$t=(2)(1)-1$	$t=(2)(2)-1$	$t=(2)(3)-1$
$t=2-1$	$t=4-1$	$t=6-1$
$\boxed{t=1}$	$\boxed{t=3}$	$\boxed{t=5}$
r = 1	r = 2	r = 3

The sequence is **1, 3, 5, …**; that is, the **Odd Numbers**.

Note how the starting value for **n** has an effect on the rule for **t**.

Also, note that for the rule $t = (2)(n) - 1$ **starting with n = 1**, the **n** and the **r** are the same for the whole sequence.

When this is the case, we can replace the n with r in the rule and write

$$t = 2r - 1$$

This allows us to find a term based on its rank in the sequence.