

## Difference of Two Squares

$3n$  is a multiple of 3,  $n \in \mathbb{Z}$ .

Numbers on either side  $\rightarrow 3n+1, 3n-1$

$$\begin{aligned} \text{Difference of their squares} &: (3n+1)^2 - (3n-1)^2 = \\ & (9n^2 + 6n + 1) - (9n^2 - 6n + 1) = \end{aligned}$$

$$12n$$

In relation to  $3n$ ,  $12n$  is 4 times bigger

$5n$  is a multiple of 5,  $n \in \mathbb{Z}$ .

Side  $\rightarrow 5n+1, 5n-1$

$$\text{Difference} \rightarrow (5n+1)^2 - (5n-1)^2 =$$

$$20n$$

In relation to  $5n$ ,  $20n$  is 4 times bigger.

SAME RELATIONSHIP