2.

If n is even, then $(n + 3)^2$ is odd.

If n is even, then, by definition, there exists an integer k such that $n = 2k$.

We substitute this value of n into the expression $(n + 3)^2$ as follows:

$(n + 3)^2 = (2k + 3)^2$

$= 4k^2 + 12k + 9$ (expanding the term)

$= 2(2k^2 + 6k + 4) + 1$ (factorizing 2 out of the terms with k)

$= 2t + 1$, where $t = 2k^2 + 6k + 4$

t is an integer because the product of integers is an integer, and the sum of integers is an integer.

An odd number, r, can be expressed in the form $2k + 1$, where k is an integer.

Therefore, $(n + 3)^2$ is an odd number.

3.

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grandfather(X, Z) :-
    father(X, Y), (mother(Y, Z) ; father(Y, Z)).
```

This rule is saying that X is the grandfather of Z if:

X is the father of some person Y and

Y is the mother or father of some Z

The , operator is used to combine two conditions, so the first condition is that X is the father of Y, and the second condition is that Y is either the mother or father of Z.

The ; operator is used to combine two possibilities: either Z is the mother of Y, or Z is the father of Y. So, the rule reads as follows: X is the grandfather of Z if there exists some person Y, who is the child of X and the parent of Z.