

YOU & MATHS **A mysterious set** Find the set of all natural numbers such that twice their square minus their quadruple is less than 6.

We are looking for natural numbers that solve the inequality:

$$2n^2 - 4n < 6.$$

The inequality is equivalent to:

$$n^2 - 2n - 3 < 0.$$

We know that real numbers that solve the inequality

$$x^2 - 2x - 3 < 0$$

are all real numbers in the interval $(-1, 3)$.

The natural numbers in the interval $(-1, 3)$ are 0, 1, and 2.