

5. WEEK 5

Problem

For a real number x , $\lfloor x \rfloor$ denotes the integral part of x , i.e. it is the unique integer m satisfying

$$m \leq x < m + 1.$$

Consider the terms of the finite sequence

$$x_n = \left\lfloor \frac{n^2}{1998} \right\rfloor \quad 1 \leq n \leq 1997.$$

How many distinct values does this sequence take?