

Difficulty: 2/4 **Interest:** 3/4

Define an n -triangle to be a triangle with integer coordinates and perimeter in $[n, n + 1)$.

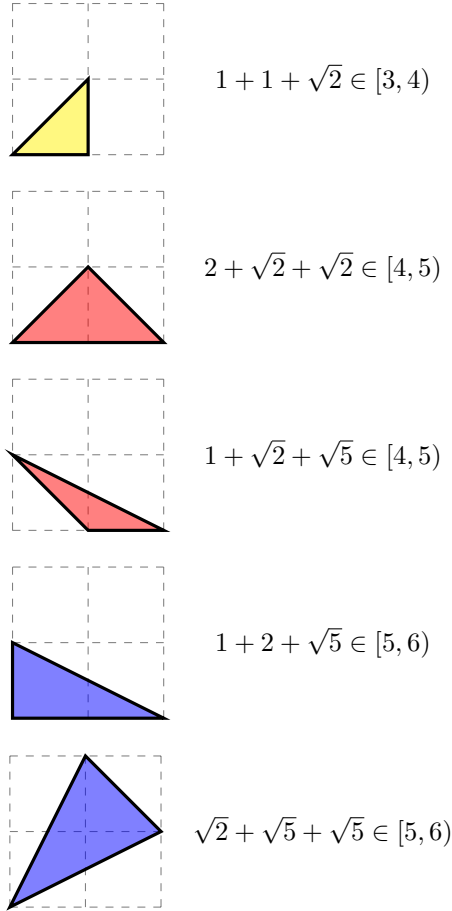


Figure 1: An example in yellow showing that $a(3) = 1$, and example in red showing that $a(4) = 2$, and an example in blue showing that $a(5) = 3$.

Question. Let $a(n)$ count n -triangles up to dihedral action. What is the asymptotic growth of $a(n)$?

Related.

1. How many tetrahedra?
2. How many quadrilaterals?

References.

<https://oeis.org/A298079> counts the number up to congruence.

Problem 51