

Problem 5.

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Let a “popsicle stick weave” be a configuration of lines segments, called “sticks”, such that

- (1) every stick has at least two sticks above it and one below or two sticks above and one below, and
- (2) the removal of any stick results in a configuration that violates (1).

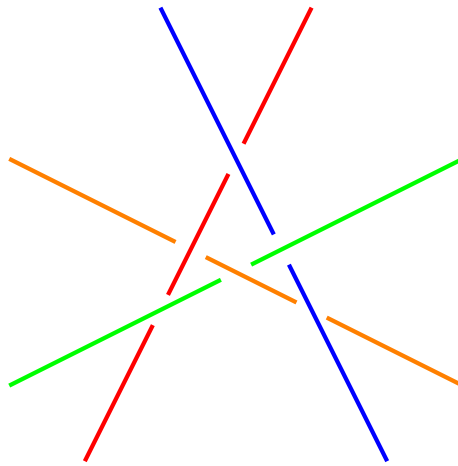


Figure 1: The unique example of a 4 stick crossing (up to reflection)

Question. How many distinct popsicle stick weaves exist for n sticks?

Related.

1. What if the sticks are only allowed to touch three other sticks?
2. What if the sticks are another geometric object (e.g. semicircles)?