

Yasmin the Yeti

Yasmin, a baby Yeti living with her family in the Himalayas, decided that she was going to make trees out of paper. She folded a piece of green paper down the middle, and then cut a saw-toothed pattern to make the branches.

Then Yasmin coloured the tree and hung up ornaments - bobbles at the end of each branch and a star at the top.

Yasmin counted the Ornaments and found she had 11 including the star.



Following Yasmin the Yeti's instructions, create a tree that needs 13 ornaments.

Is it possible to follow Yasmin the Yeti's instructions and create a tree with 9 or 10 ornaments?

Extensions:

- Yasmin next decided that she wanted to have two colours of bobbles on the tree.
- Is it possible that Yasmin can replace bobbles on her original tree so that there are the same numbers of green and red bobbles on the tree?
- Is it possible for your 13-ornament tree?
- Will it always be possible for a tree made with Yasmin the Yeti's instructions?
- What would happen if Yasmin wanted to use 3 colours of bobbles and wanted to use an equal number on each tree?

The Math in This Problem:

In this math investigation, students will experiment with paper and scissors, cutting out saw-toothed patterns to create paper trees of various sizes. Observing the different shapes that could be created, including the number of branches each possesses, students are tested to construct paper trees that will each hold its respective number of ornaments.