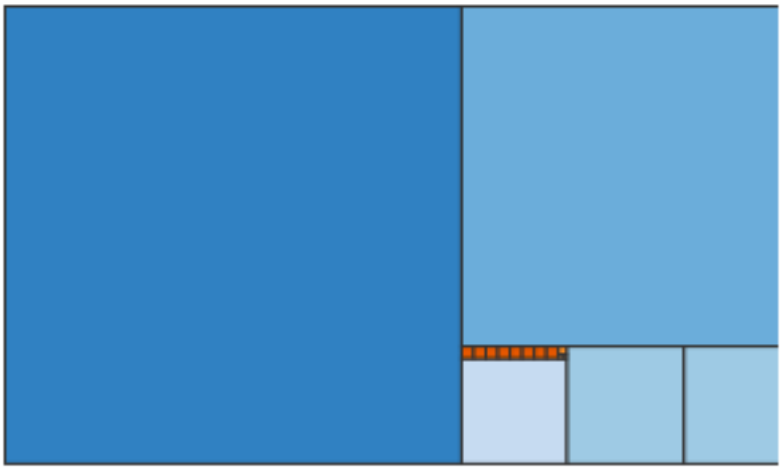
Picture this!

NA3_RT1

In this interactivity, you can specify two positive integers (whole numbers) and the computer will draw a corresponding diagram.

Experiment with a few examples, and then consider the questions that follow.



- Given two positive integers, can you draw the corresponding diagram?
- Given a diagram, can you determine the corresponding pair of positive integers?

You should now have a good understanding of the relationship between the diagram and the pair of positive integers. There are many questions that you might now ask yourself.

Investigate the questions that interest you. You might want to make some conjectures and then try to prove (justify) them or to disprove them by finding counterexamples.

Then you can look at our list of questions below.

What is the relationship between the side length of the smallest square in the diagram and the pair of positive integers?

How many steps (different colours) can we have? Which pairs of integers give many steps and which give few?

How can we record the information from the diagram in the form of equations?

When might the diagram be more convenient? When might the equations be more convenient?

What is the point of the process captured by this diagram? What is it useful for? When might it be more or less useful than our existing techniques?

Relevance

NA3 What are highest common factors and why do they matter?

