

## Looking Closely — Extension Version

Combining, splitting and comparing angles



"Look closely and reason carefully," says Ollie. "Combining and splitting shapes can surprise you — explain how you know."

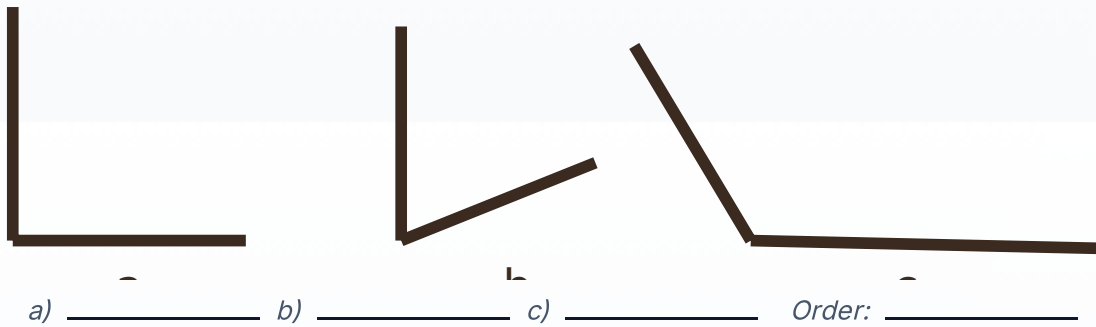
1. Bo joins two identical right-angled triangles in different ways. Name **two different** shapes he could make, and say how the triangles are arranged for each.

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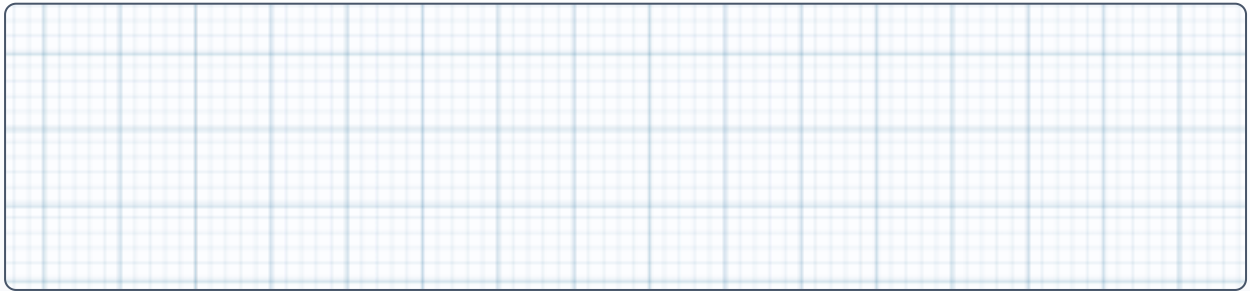
2. A rectangle is cut along one diagonal. Then one of those triangles is cut along its height. How many pieces are there now, and what shapes are they?

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3. Label each angle as **right**, **smaller than a right angle**, or **larger than a right angle**, then put them in order from smallest to largest.



4. Ollie says a square always has four right angles, but a four-sided shape with four right angles isn't always a square. Sketch a shape that proves Ollie right, and explain.



5. Using only right-angled triangles, what is the smallest number you need to build a rectangle? What about a larger square? Explain your thinking.

A grid for explaining the answer. The grid is 10 units wide and 10 units high.