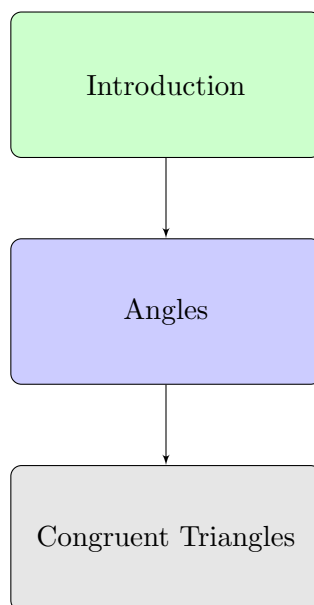
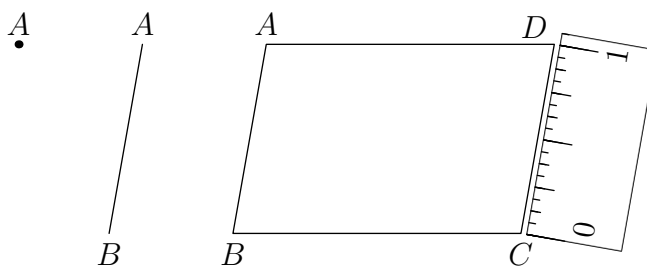


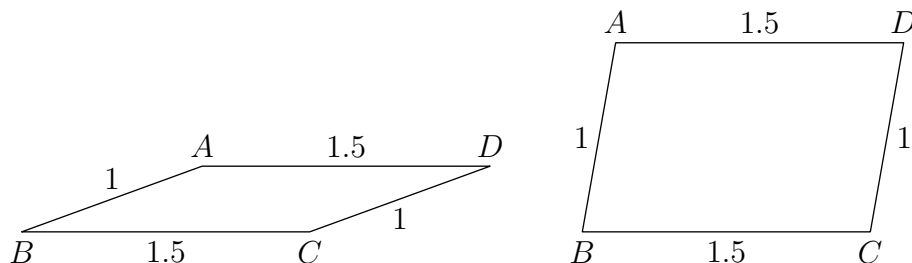
1 Road Map for Angles



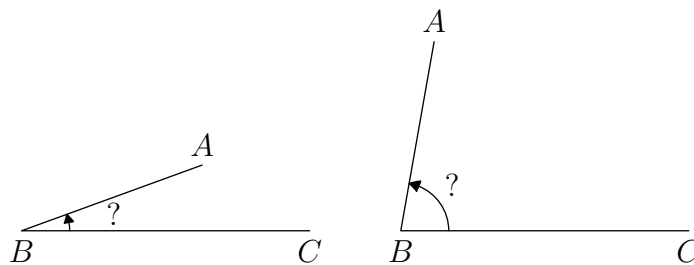
You've learned the building blocks of geometry. In particular, you know how to build up polygons in 2 dimensions from points and line segments. Using a ruler, you can measure the **lengths** of these line segments.



But just knowing lengths isn't enough: The following two quadrilaterals have the same lengths, but they are not the same at all!

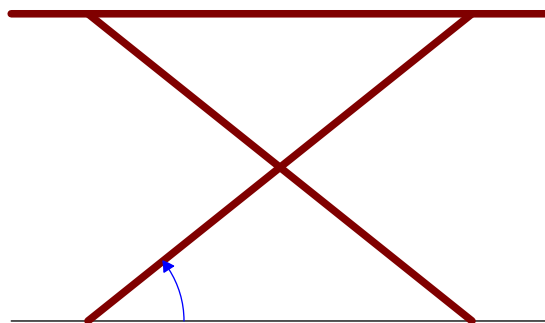


We also need to think about how the line segments come together, or how much they “open up.”



In this Cluster, you will discover how to *quantify* how much the line segments “open up,” using **angles**. Using a combination of side lengths and angle measures, you will be able to describe any polygon completely. In this way, you can tell your friend how to draw any polygon of *your* choosing by just giving her a few numbers!

You will learn how to categorize angles and calculate angles made by *intersecting lines* and *parallel lines*, and apply this knowledge to help Leo discover by measurement whether a picnic table is flat. You will find a way to create information in diagrams by *drawing the extra line*, and use this technique to discover a relationship between the angles in a triangle. After this Cluster, you will be well-equipped to tackle triangles, shapes consisting of three sides and *three* angles.



Go through all the cells in order. This Cluster also includes one optional cell: problem-solving with angles in clocks.

