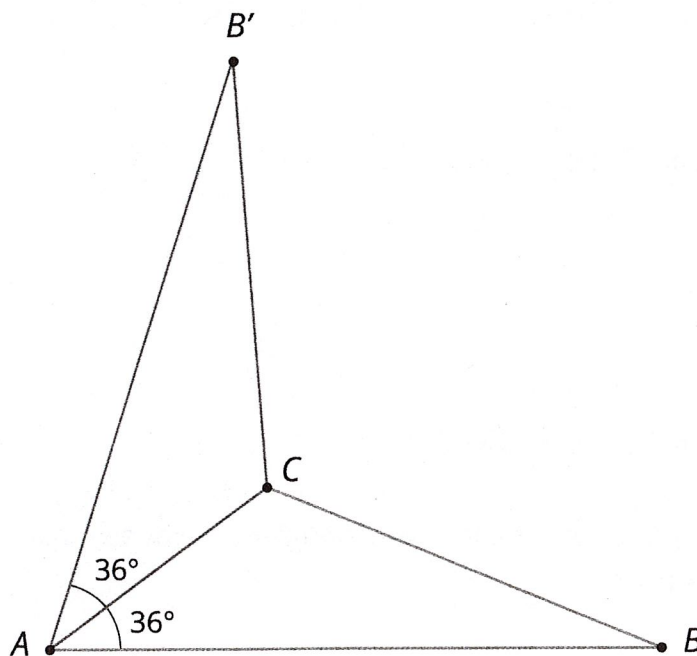


We can reflect triangle ABC across side AC to form a new triangle:



Because points A and C are on the line of reflection, they do not move. So the image of triangle ABC is $AB'C$. We also know that:

- Angle $B'AC$ measures 36° because it is the image of angle BAC .
- Segment AB' has the same length as segment AB .

* Knowing this we can measure sides & angles without our measuring tools.

When we construct figures using copies of a figure made with rigid transformations, we know that the measures of the images of segments and angles will be equal to the measures of the original segments and angles.

3. What is the measure of angle MOE ?
4. Reflect triangle MON across segment OM . Label the point that corresponds to N as T .
5. How long is \overline{OT} ? How do you know?
6. What is the measure of angle TOE ?
7. If you continue to reflect each new triangle this way to make a pattern, what will the pattern look like?

Lesson 10 Summary

Earlier, we learned that if we apply a sequence of rigid transformations to a figure, then corresponding sides have equal length and corresponding angles have equal measure. These facts let us figure out things without having to measure them!

For example, here is triangle ABC .

