Introducing Congruence (Spotlight Task)
(Congruence in terms of rigid motions)

Standards Addressed in this Task
MGSE9-12.G.CO.6 Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.

MGSE9-12.G.CO.7 Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.

Standards for Mathematical Practice

3. Construct viable arguments and critique the reasoning of others by engaging students on discussion of why they agree or disagree with responses, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

5. Use appropriate tools strategically by expecting students to consider available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a compass, a calculator, software, etc.

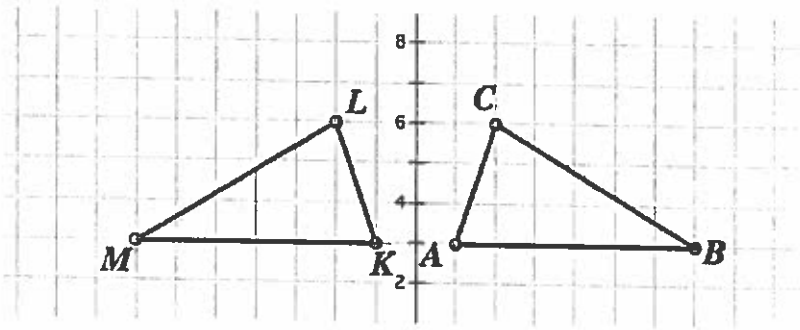
6. Attend to precision by requiring students to calculate efficiently and accurately; and to communicate precisely with others by using clear mathematical language to discuss their reasoning.

If ΔDEF is a translation of ΔABC, then what is true about the various sides and angles of the triangles? Specifically, what parts of these two triangles are related, and how are they related?

In general, what can you say about sides and angles of figures that are translations, reflections, or rotations of other figures?

So then, if two triangles are congruent (and congruence depends on translations, reflections, and rotations), then what must be true about their sides and angles?

Are these triangles congruent? Why or why not?



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