Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Lesson Summary

Similarity is a symmetric relation. That means that if one figure is similar to another, , then we can be sure that .

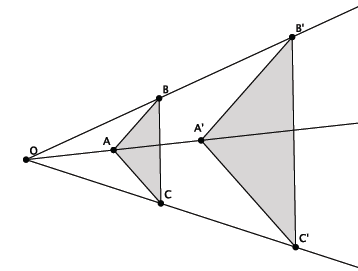
Similarity is a transitive relation. That means that if we are given two similar figures, , and another statement about , then we also know that .

Problem Set

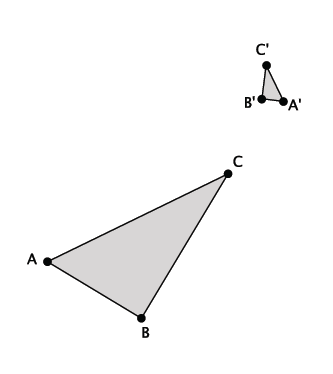
1. In the diagram below, and . Is ? If so, describe the dilation followed by the congruence that demonstrates the similarity.

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1. Would a dilation alone be enough to show that similarity is symmetric? That is, would a dilation alone prove that if , then ? Consider the two examples below.
   1. Given Can you show that using **only** a dilation? Explain.



* 1. Given Can you show that using **only** a dilation? Explain.



* 1. In general, is dilation enough to prove that similarity is a symmetric relation? Explain.

1. Would a dilation alone be enough to show that similarity is transitive? That is, would a dilation alone prove that if   
   , and , then ? Consider the two examples below.
   1. Given and . Is a dilation enough to show that ? Explain.

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* 1. Given and . Is a dilation enough to show that ? Explain.

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* 1. In general, is dilation enough to prove that similarity is a transitive relation? Explain.