11 Family Letter

Dear Parent or Guardian:

Geometric figures can be found in all kinds of places. Wallpaper and tile often contain geometric patterns. Traffic signs are created in the shapes of various types of polygons. Applying geometric concepts to the real world can help us solve many types of problems.

In **Chapter 11, Geometry: Polygons,** your child will learn about angles, circle graphs, polygons, similar figures, tessellations, translations, and reflections. Your child will also learn to use logical reasoning to solve problems. In the study of this chapter, your child will complete a variety of daily classroom assignments and activities and possibly produce a chapter project.

By signing this letter and returning it with your child, you agree to encourage your child by getting involved. Enclosed is an activity you can do with your child that practices how the math we will be learning in Chapter 11 might be tested. You may also wish to log on to **www.msmath2.com** for self-check quizzes and other study help. If you have any questions or comments, feel free to contact me at school.
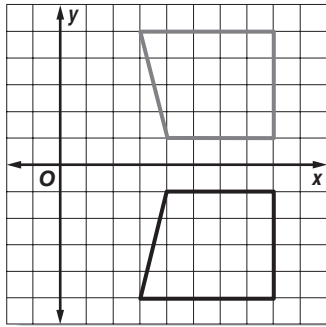
Sincerely,

Signature of Parent or Guardian _____ Date _____

11 Family Activity
State Test Practice

Fold the page along the dashed line. Work each problem on another piece of paper. Then unfold the page to check your work.

1. On the coordinate axis shown below, the geometric shape has been transformed in some way.

What word best describes the transformation that has taken place?

A rotation
B translation
C reflection
D dilation

2. The following triangles are similar.

Which of the following is *not* true about similar figures?

A Similar figures have equal corresponding angles.
B Similar figures have proportional corresponding side lengths.
C Similar figures do not have to have proportional corresponding side lengths.
D Similar figures are the same shape but may be a different size.

Fold here.

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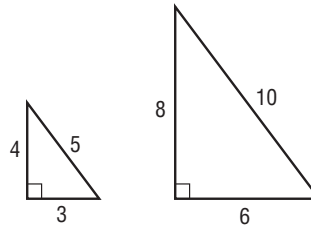
Solution

1. *Hint: An object that has been rotated has been turned around a point. An object that has been translated has been moved in its current form to different coordinates in the plane. An object that has been reflected will be a mirror image of the original object over a line of reflection. A dilation results in a change in size from the original object.*

The object has not been turned, so it is not a rotation. The object is oriented differently than originally, so it cannot be a translation. The object's size did not change, so it cannot be a dilation.

The object is a mirror image of itself on the other side of the *x*-axis, so the transformation is a reflection.

The answer is **C.**

Solution

2. *Hint: Similar triangles have the same shape and their sizes are proportional.*

When two figures are similar, they are the same shape, their corresponding sides are proportional, and corresponding angles are equal. Based on the definition of similar figures, choices A, B, and D are also true.

Choice C directly contradicts the definition of similar figures and is not true.

The answer is **C.**