

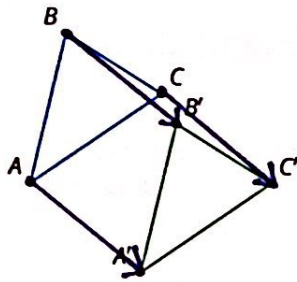
# UNIT 1 LESSON 10

## Practice Problems #1-3

### Problem 1

Here are 4 triangles that have each been transformed by a different transformation. Which transformation is *not* a rigid transformation?

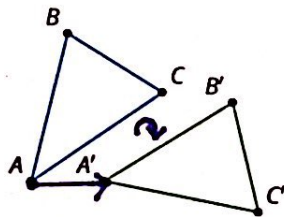
A:



A) Is a translation, which is a rigid transformation.

↗ Expand Image

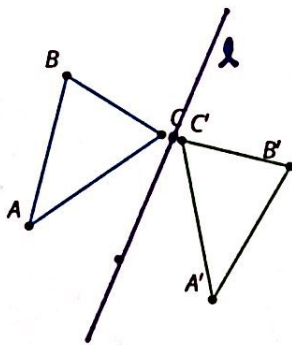
B:



B) Is a combination of a rotation & translation which are both rigid transformations.

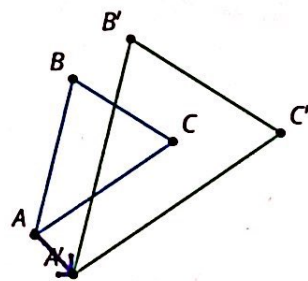
↗ Expand Image

C:



C)  $\triangle ABC$  was reflected over line  $l$  to get  $\triangle A'B'C'$ , which is a rigid transformation.

D:



D)  $\triangle ABC$  was translated by vector  $AA'$  and then enlarged (dilated) to get  $\triangle A'B'C'$ . This is not a rigid transformation because  $\triangle ABC$  &  $\triangle A'B'C'$  are not the same size.

↗ Expand Image

**Problem 2**

What is the definition of congruence?

A:

If two figures have the same shape, then they are congruent.

→ a shape can be enlarged or reduced which would make them not congruent.

B:

If two figures have the same area, then they are congruent.

→ two figures that are not the same shape can have the same area.

C:

If there is a sequence of transformations taking one figure to another, then they are congruent.

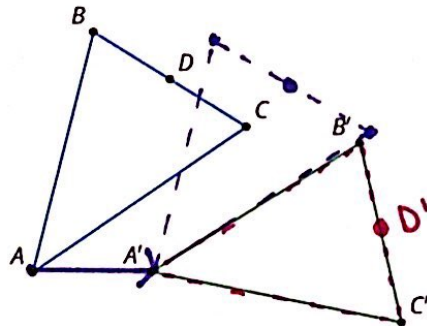
→ not specific enough (dilation)

D:

If there is a sequence of rotations, reflections, and translations that take one figure to the other, then they are congruent.

**Problem 3**

There is a sequence of rigid transformations that takes  $A$  to  $A'$ ,  $B$  to  $B'$ , and  $C$  to  $C'$ . The same sequence takes  $D$  to  $D'$ . Draw and label  $D'$ :



1) Translate  $\triangle ABC$  by vector  $AA'$ .

2) Rotate the purple triangle about point  $A'$  clock-wise until  $B$  lines up with  $B'$ .

↗ Expand Image