Practice

Form G

Translations

Tell whether the transformation appears to be a rigid motion. Explain.

1.

Preimage   Image

2.

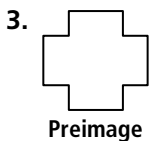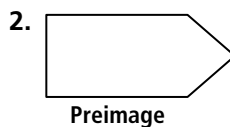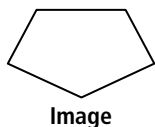Preimage   Image

3.

Preimage   Image

4.
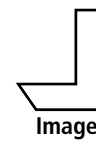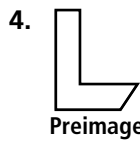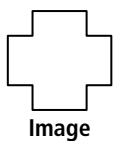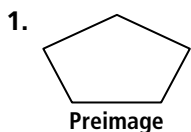
Preimage   Image

In each diagram, the dashed-line figure is an image of the solid-line figure.
(a) Choose an angle or point from the preimage and name its image.
(b) List all pairs of corresponding sides.

5.

A
A'   C'
B'
B   C

6.

J---K
M -----L
U   V
X   W
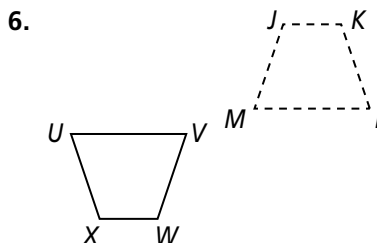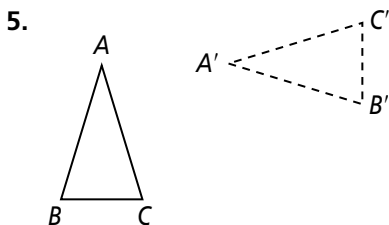
Graph the image of each figure under the given translation.

7. $T_{<-1, 4>}(\triangle ABC)$
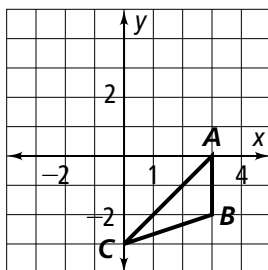
8. $T_{<3, 3>}(MNOP)$
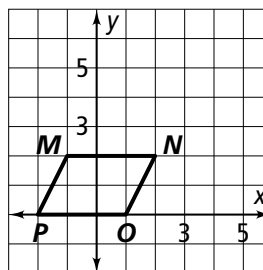
The dashed-line figure is a translation image of the solid-line figure. Write a rule
to describe each translation.

9.

10.
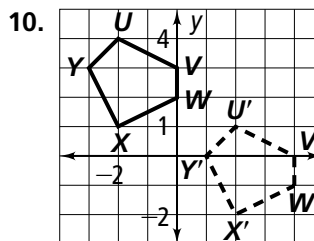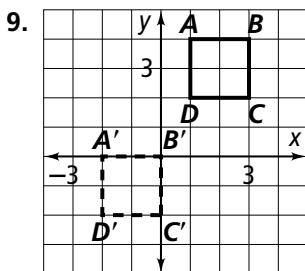
# Practice (continued)   *Form G*
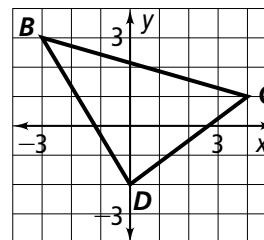
Translations

11. You are visiting Washington, D.C. From the American History Museum you walk 5 blocks east and 1 block south to the Air and Space Museum. Then you walk 8 blocks west to the Washington Monument. Where is the Washington Monument in relation to the American History Museum?

12. You and some friends go to a book fair where booths are set out in rows. You buy drinks at the refreshment stand and then walk 8 rows north and 2 rows east to the science fiction booth. Then you walk 1 row south and 2 rows west to the children's book booth. Where is the children's book booth in relation to the refreshment stand?

13. Reasoning If $T_{<10, 15>}(PQRS) = P'Q'R'S'$, what translation maps $P'Q'R'S'$ onto $PQRS?$

14. $\triangle XYZ$ has coordinates $X(2, 3)$, $Y(1, 4)$, and $Z(8, 9)$. A translation maps X to $X'(4, 7)$. What are the coordinates for Y' and Z' for this translation?

15. Use the graph at the right. Write three different translation rules for which the image of $\triangle RST$ has a vertex at the origin.
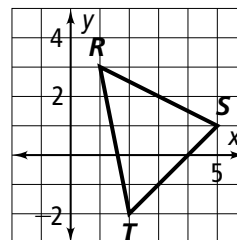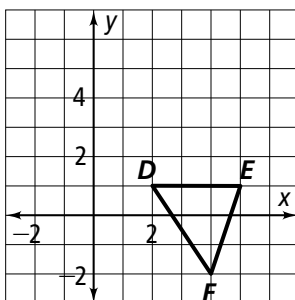
16. Use the graph at the right. Write three different translation rules for which the image of $\triangle BCD$ has a vertex at the origin.

Graph the image of each figure under the given translation.

17. $T_{<-3, 4>}(\triangle DEF)$

18. $T_{<-5, 1>}(KLMN)$