

10B Slide to the Left, Slide to the Right

Name: _____ Per: _____

SHOW YOUR WORK AND WORK IN PENCIL



OBJECTIVE: Translating an image and construct angle bisector.

Due Date: March 14th / March 15th

Use the translation rule of $(x, y) \rightarrow (x + 5, y - 9)$ for the following questions.

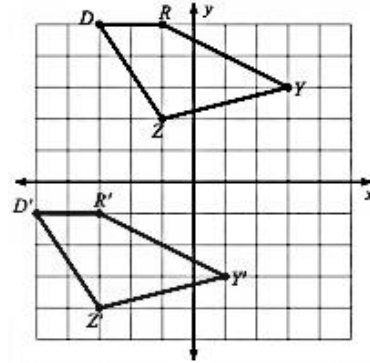
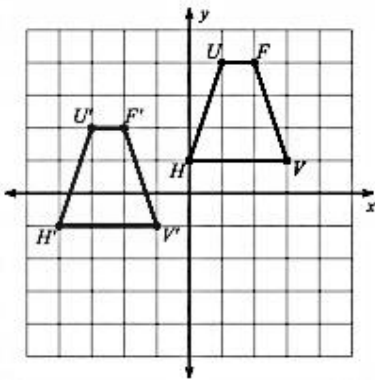
1. What are the coordinates of A' if A is $(-6, 3)$?
2. What are the coordinates of B' if B is $(4, 8)$?
3. What are the coordinates of C' if C is $(5, -3)$?
4. What are the coordinates of D (the pre-image) if D' is $(12, 7)$?

The vertices of $\triangle ABC$ are $A(-6, -7)$, $B(-3, -10)$ and $C(5, 2)$. Find the vertices of $\triangle A'B'C'$ given the following translations rules below.

5. $(x, y) \rightarrow (x - 2, y - 7)$
 A' _____ B' _____ C' _____
6. $(x, y) \rightarrow (x + 11, y + 4)$
 A' _____ B' _____ C' _____

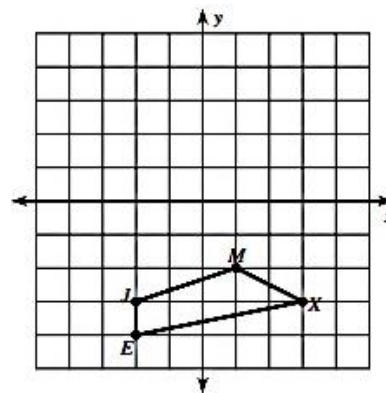
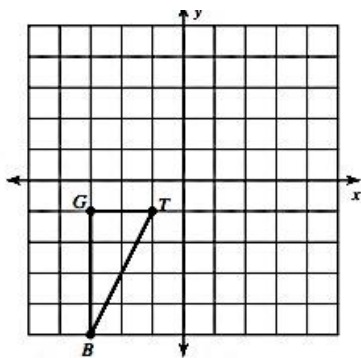
Write the translation rule for the followings:

7. $FUHP$ is the pre-image and $F'U'H'P'$ is image.
8. $DRYZ$ is the pre-image and $D'R'Y'Z'$ is image.



Graph the image of the figure using the transformation given. Make sure that you label your new image.

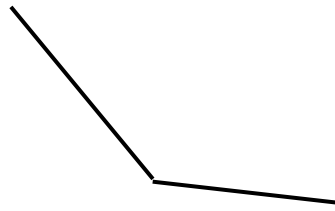
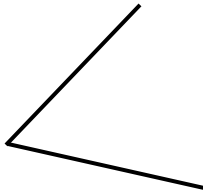
9. Translate 5 units up and 3 to the right.
 - a. Write the translation rule: _____
10. Translation the image: $(x, y) \rightarrow (x - 2, y + 6)$.
 - a. Write the new coordinates points for the new image.
 M' _____
 X' _____
 E' _____
 J' _____



11. The coordinates of quadrilateral QUAD are $Q(-6, 1)$, $U(-3, 7)$, $A(4, -2)$ and $D(1, -8)$. Translate QUAD to the left 3 units and down 7 units write the coordinates for Q' , U' , A' and D' .

- a. Q' _____ U' _____ A' _____ D' _____
- b. Write the translation rule. _____

12. **Construct a copy** of the given angles and then **bisect the angles** that you constructed.



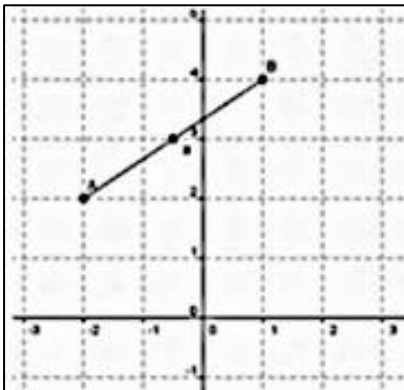
13. **Solve the Pythagorean Theorem for the given variable:**

a. Solve for a : $a^2 + b^2 = c^2$

b. Solve for b : $a^2 + b^2 = c^2$

Use the following images to **write the equation for its perpendicular bisector** and then **CONSTRUCT the perpendicular bisector**. Extra Credit: Use the Pythagorean Theorem to find the distance of the given line segment.

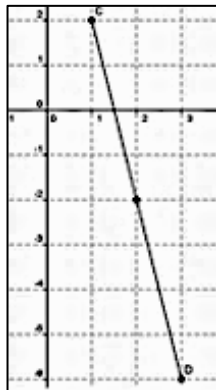
14. The slope of AB is $\frac{2}{3}$ and its midpoint is $(-0.5, 3)$.



a. Find the equation for the perpendicular bisector.

b. Then **CONSTRUCT** it.
E.C. Distance of the given segment?

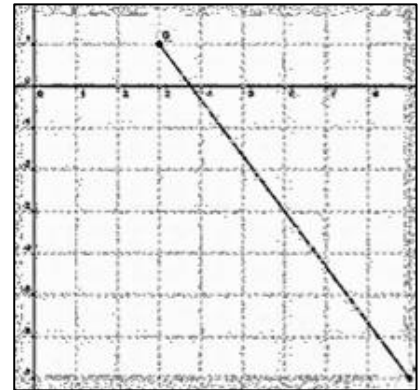
15. The midpoint of line segment CD is $(2, -2)$



a. Find the equation for the perpendicular bisector.

b. Then **CONSTRUCT** it.
E.C. Distance of the given segment?

16. Use line segment GK in the grid below.



a. Find the equation for the perpendicular bisector.

b. Then **CONSTRUCT** it.
E.C. Distance of the given segment?

Extra Credit: Using the graph to the right, find the ideal location of a new power plant that will deliver electricity to towns Omaha (point O), Newman (point N) and Palm (point P). The factory/plant **MUST** be the same distance to all three towns. Show Your Work!

