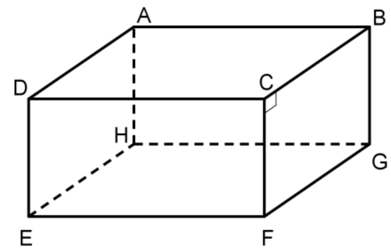
Geometry Chapter 3, 4, 9 Test Review Name ______________________

1. In the figure at the right, consider each segment to be part of a line.



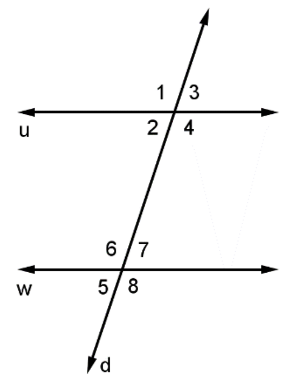
a) Name all segments skew to $\overline{BG}$. ______________________

____

1b) Name the plane parallel to plane BCF. ______________

1c) Name all segments parallel to $\overline{FG}$ ______________________________

2. In the figure at the right $u \parallel w$.

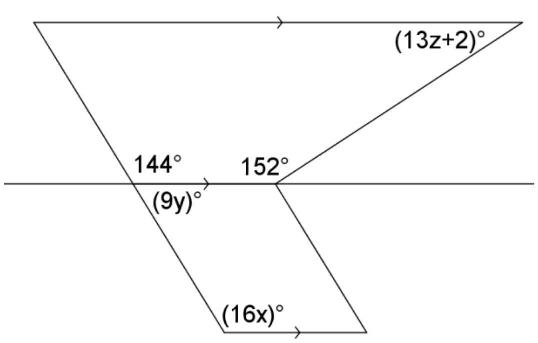


a) Given $m\angle 1 = 110°$, find the measure of each marked angle and **write the value** on the diagram.

State the angle relationship between each pair of angles. Determine if the angles are congruent, complementary, or supplementary.

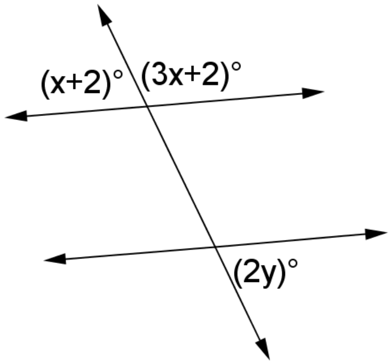
	Angle Relationship: Alternate Interior, Alternate Exterior, Consecutive Interior, Corresponding, Linear Pair, or Vertical	Congruent, Supplementary, Complementary
b) $\angle 1$ and $\angle 6$		
c) $\angle 2$ and $\angle 3$		
d) $\angle 4$ and $\angle 7$		
e) $\angle 3$ and $\angle 5$		
f) $\angle 6$ and $\angle 4$		
g) $\angle 5$ and $\angle 8$		

3. Use the angle relationships to write an equation and solve for x, y, and z.



$x =$ ______ $y =$ ______ $z =$ ______

4. Determine the value for x and y that would make the lines parallel.

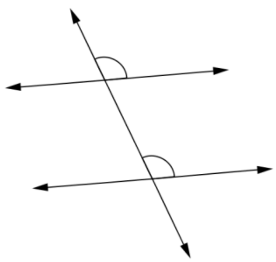


$x =$ ________

$y =$ ________

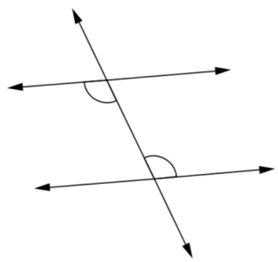
5. Determine whether each diagram could prove lines parallel or not. Explain why or why not.

a.



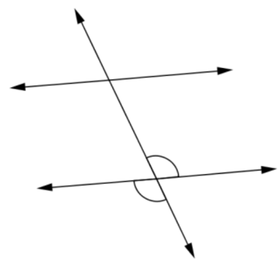
Parallel: Yes or No
Explain:

b.



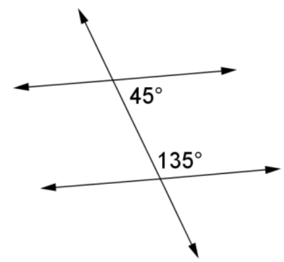
Parallel: Yes or No
Explain:

c.



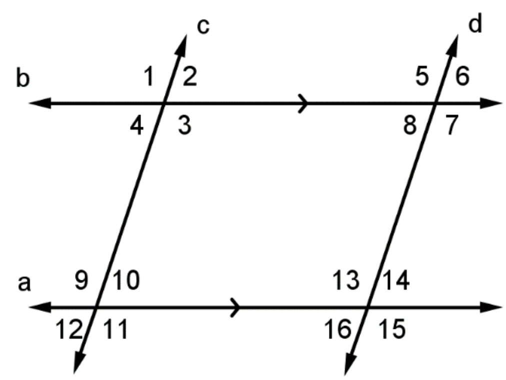
Parallel: Yes or No
Explain

d.



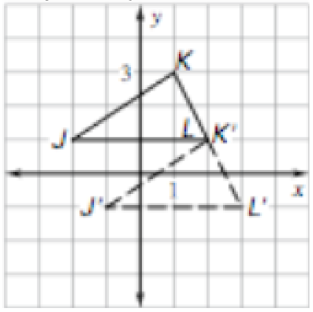
Parallel: Yes or No
Explain:

6. Complete the proof.
Given: $a \parallel b, \angle 10 \cong \angle 6$
Prove: $c \parallel d$

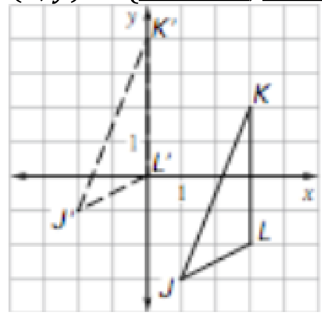


7. Describe the translation using coordinate notation.

a. $(x, y) \rightarrow$ (________, ________)

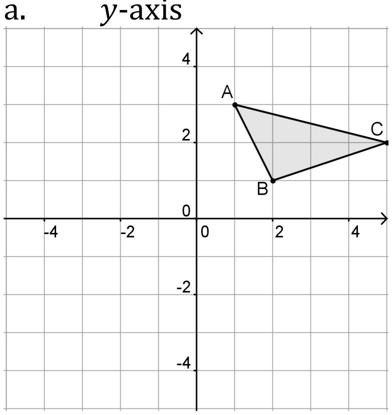


b. $(x, y) \rightarrow$ (________, ________)

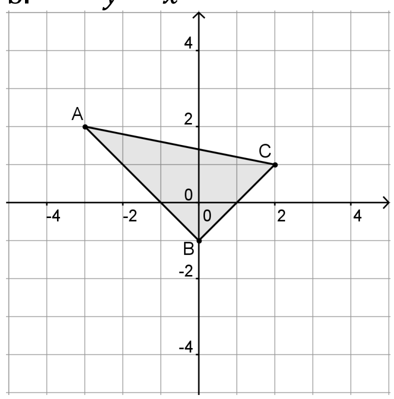


8. Draw the reflection of ΔABC in the given line. List the coordinates of the vertices A', B', and C'.

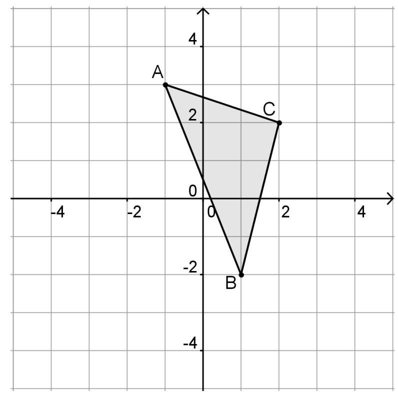
a. y-axis



b. $y = x$



c. $x = 2$



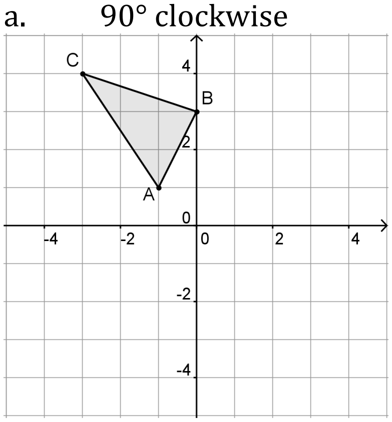
a. $A' =$ (______, ______) $B' =$ (______, ______) $C' =$ (______, ______)

b. $A' =$ (______, ______) $B' =$ (______, ______) $C' =$ (______, ______)

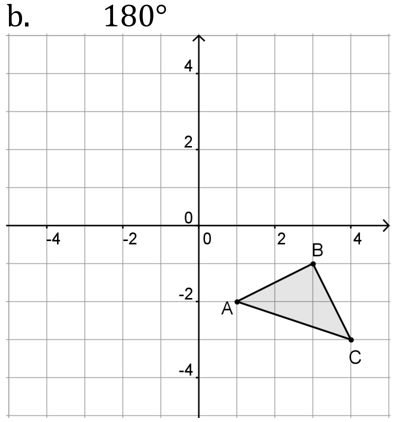
c. $A' =$ (______, ______) $B' =$ (______, ______) $C' =$ (______, ______)

9. Rotate the figure about the origin. List the coordinates of A', B', and C'.

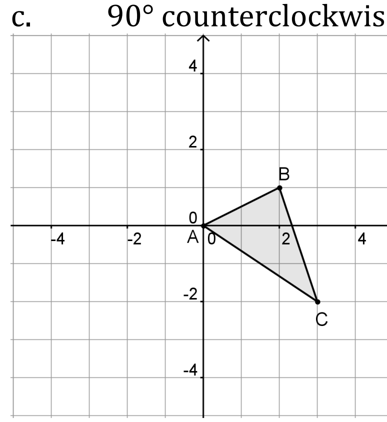
a. 90° clockwise



b. 180°



c. 90° counterclockwise

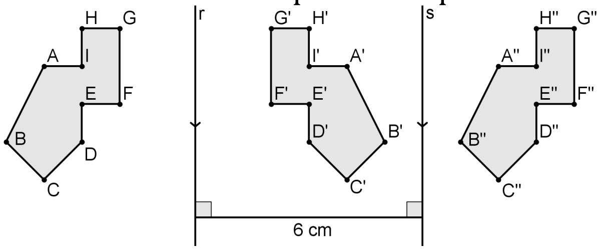


a. $A' =$ (______, ______) $B' =$ (______, ______) $C' =$ (______, ______)

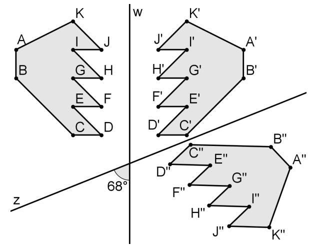
b. $A' =$ (______, ______) $B' =$ (______, ______) $C' =$ (______, ______)

c. $A' =$ (______, ______) $B' =$ (______, ______) $C' =$ (______, ______)

10. Below is an example of a double reflection over parallel lines r and s. The distance between lines r and s is 6 cm, what is the distance from point H to point H''?

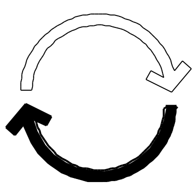


11. Below is an example of a double reflection over intersecting lines w and z. The angle between w and z is 68°. What is the angle of rotation between K and K''?

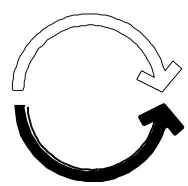


12. Determine the type of that maps the unshaded figure (preimage) onto the shaded figure (image).

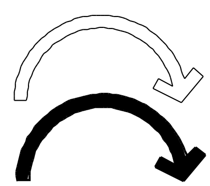
a.



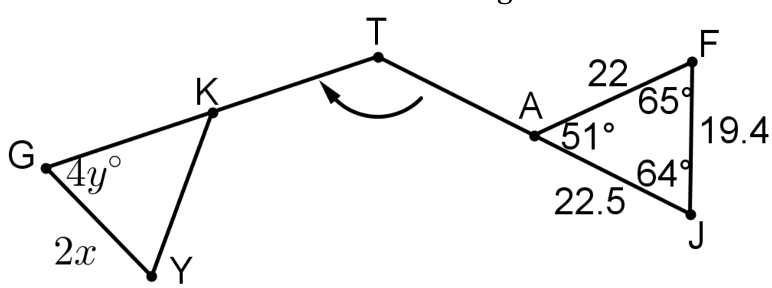
b.



c.



13. Determine the value of each variable given that the transformation is an isometry.



14. The vertices of ΔABC are $A = (1, 4), B = (2, 1)$, and $C = (5, 2)$. Graph the composition of ΔABC using the transformations listed below. Write the coordinates of the points A'', B'', and C''

Reflection in the y-axis maps ΔABC to $\Delta A'B'C'$

Translation $(x, y) \rightarrow (x + 5, y - 4)$ maps $\Delta A'B'C'$ to $\Delta A''B''C''$

Coordinates:

$A'' =$ ________

$B'' =$ ________

$C'' =$ ________