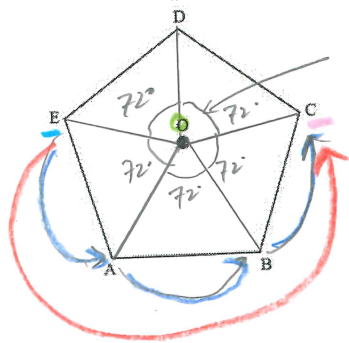


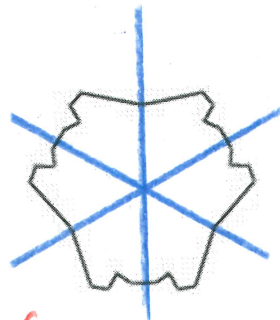
CO-A3a

Practice Assessment

1. What is the minimum number of degrees of counterclockwise rotation about point O required to carry point E onto point C on the regular pentagon below?



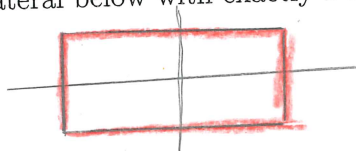
360° in total
 each Δ is $\frac{1}{5}$ of 360°
 so,
 $\frac{360}{5} = 72^\circ \leftarrow$ each turn
 x 3 turns needed.
216°



2. Mark all lines of reflection which would carry the figure onto itself.

means: looks the same as before the transformation

3. Draw a quadrilateral below with exactly 2 lines of reflectional symmetry.



Note: a square has 4 lines of symmetry.

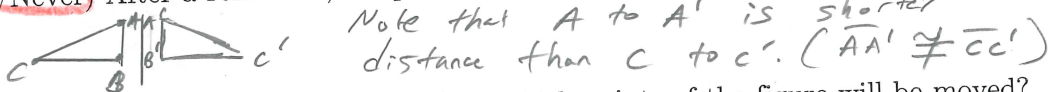


CO-A4

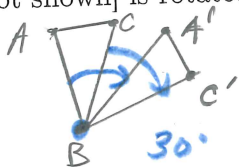
4. (Always/Sometimes/Never) A translation along a vector will carry a figure onto itself.

because a slide will always move the object to a new location. slide direction magnitude (see #2)

5. (Always/Sometimes/Never) After a reflection, the points of a figure all move by the same amount.



6. ΔABC [not shown] is rotated 30° clockwise about point B. Which points of the figure will be moved?



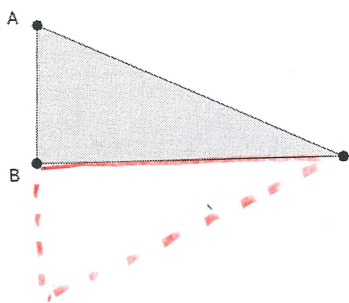
(Note that B stays put) "pivot"

A and C

CO-B6a

7. Describe in detail a sequence of rigid motions that would carry ΔABC onto ΔPWS .

[Hint that won't be on the real test: be sure to give what line you reflect over, what vector you translate along, and what point you rotate around]

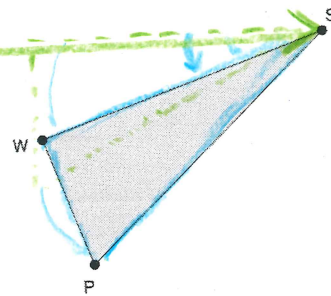


(Possible answer)

1. Reflect ΔABC across \overline{BC} .

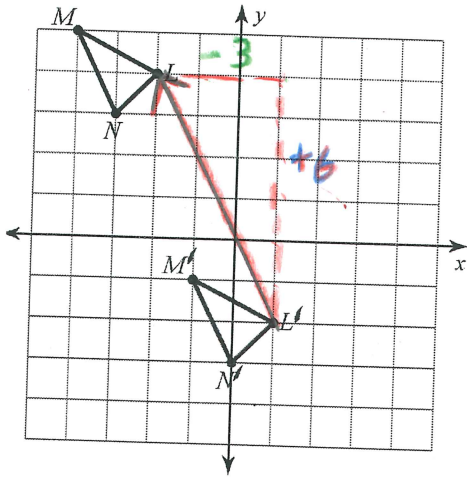
2. Translate along vector \overrightarrow{CS} .

3. Rotate counterclockwise around point S until B maps to W.



CO-A2a

8. Give the vector, in vector notation, that describes the translation shown here.

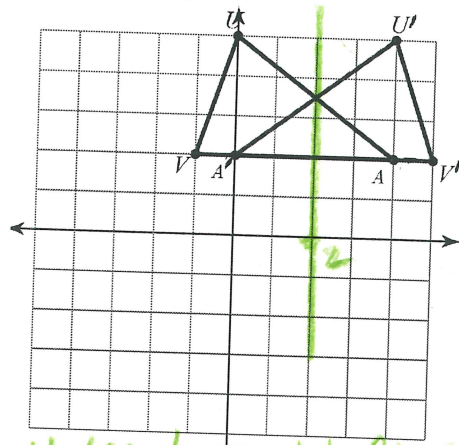


$$\begin{bmatrix} -3 \\ 6 \end{bmatrix}$$
 (or)

$$\langle -3, 6 \rangle$$

9. Write the equation of the line of reflection.

look for symmetry



$x = 2$

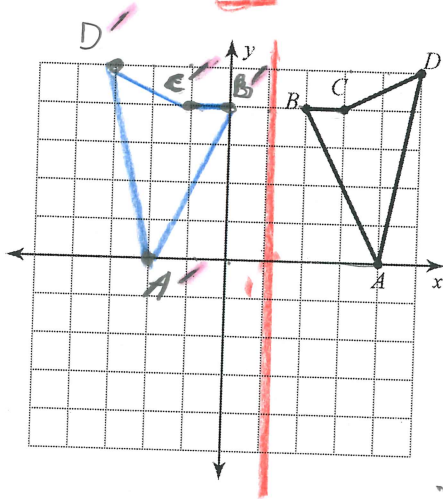
Note: horizontal lines: $y = \underline{\hspace{2cm}}$
vertical lines: $x = \underline{\hspace{2cm}}$

CO-A5a

Perform each transformation indicated. Label the points of the image using prime notation.

10. Reflect across $x=1$

vertical

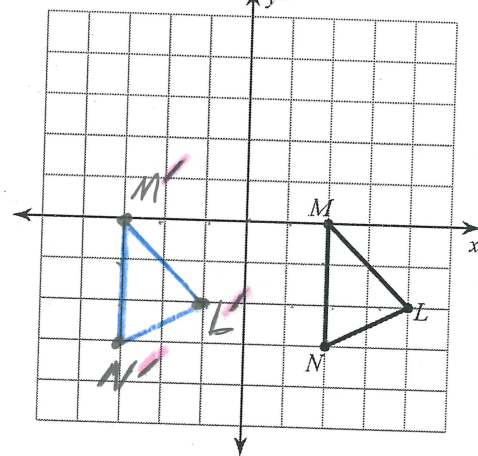


• B is one unit from line.
 so, B' is one unit across the line
 • A is 3 from the line, so A' is 3 across the line.
 • And so on...

11. $(x, y) \rightarrow (x - 5, y)$

left 5 up 0

x: left or right - +
y: down or up - +



GPE-B7a

12. Are the lines of these equations, when graphed, parallel, perpendicular, or neither? Explain your answer in words and use numbers to justify your reasoning.

$$\begin{cases} 2x - y = 3 \\ 4x - 2y = 2 \end{cases}$$

Put into $y = mx + b$ form

Same slope
opposite reciprocal slopes

Parallel, as the slopes both = 2.

$$\begin{aligned} 2x - y &= 3 \\ 2x & \quad -2x \\ \hline -y &= -2x + 3 \\ -1 & \quad -1 \quad -1 \\ \hline y &= 2x - 3 \end{aligned}$$

$$y = 2x - 3 \quad \text{slope: } 2$$

$$4x - 2y = 2$$

$$-2y = \frac{-4x + 2}{-2}$$

$$y = 2x - 1 \quad \text{slope} = 2$$

GPE-B5a

13. Find the perimeter, to the nearest hundredth, of $\triangle ABC$ where $A(-3,1)$ $B(1,2)$ $C(2,-1)$

12.67

→ use distance formula or pythagorean theorem.

