Geometry B Live Lesson Class

U4L8 – Transformations Unit Review

CONNECTIONS ACADEMY®

Agenda

1. Review topics and problems from Unit 4.

2. Use the 2-column note system to take better notes in math class. Bring your math notebook and pen or pencil to each math LiveLesson class.

2-Column Notes Template

1. Announcements/To Do's	1. Write down important details.
2. School-Wide Learner Outcomes	2. What are you going to work on this week?
3. LL Objectives	
4. Vocabulary words	4. Definitions (fill in as we go)
5. Problems	5. Steps to solving problems
6. Summary (End of class)	6. 1 or 2 sentences about the LL class.

Reminders and To – Do's

Information

What to do

1. Complete 1 math lesson per day.

1. Go to your Planner in Connexus to find the math lesson for the day

2. Check your WebMail every day

2. Go to Connexus to find WebMail

3. Be prepared to spend 4 - 6 hours per day on schoolwork.

3. Complete lessons for the day from your Planner. Do not get behind on lessons.

4. Remind your Learning Coach to take daily attendance

4. Have your Learning Coach log into Connexus daily.

Reminders and To – Do's

Information

What to do

5. Go to the Message Board first for information about our math class.

6. Contact Mr. Elizondo for math questions.

Remember: You need at least 2 phone calls with Mr. Elizondo per semester.

6. Call (559) 549 - 3244 and leave a voicemail if call is not answered.

Make an appointment at: https://elizondo.youcanbook.me

Send a WebMail

U4L8 – Vocabulary Words

- angle of rotation
- center of a regular polygon
- center of dilation
- center of rotation
- composition of transformations
- dilation
- enlargement
- glide reflection
- image
- isometry
- line of reflection
- line of symmetry

- line symmetry
- point of symmetry
- preimage
- reduction
- reflection
- reflectional symmetry
- rotation
- rotational symmetry
- scale factor of dilation
- symmetry
- transformation
- translation

U4L8 – Things to Know for Unit 4 Test

- Identifying transformations

- Definition and examples of isometries

- Translation rules

- Reflections across x-axis, y-axis

- Rotations: finding angle of rotation; finding image after rotation

- Symmetry: reflectional symmetry, rotational symmetry, point symmetry

- Dilations: enlargement vs. reduction

- Glide reflections

What rule describes the translation shown in the figure?
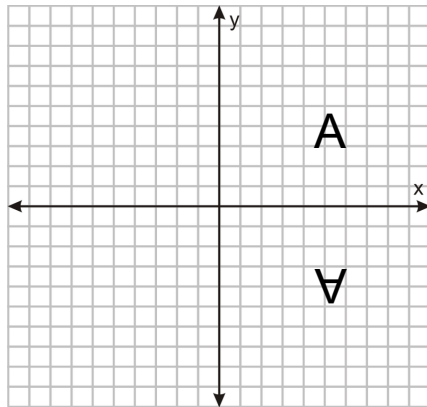
$$(x + 2, y + 5)$$
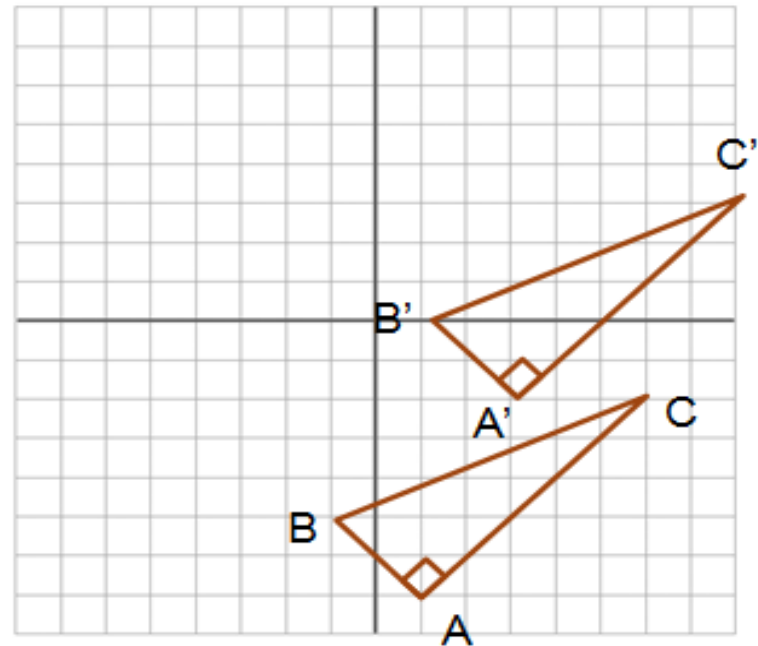
U4L8 – Translations

What rule describes the translation 3 units left and 2 units down?
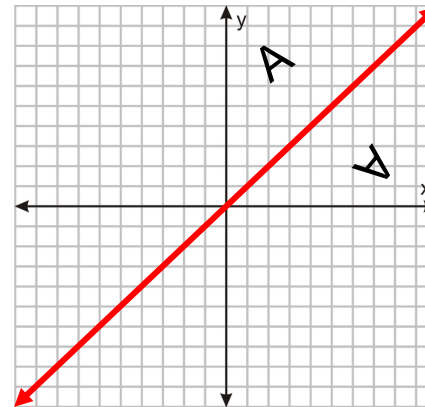
$$(x - 3, y - 2)$$

U4L8 – Reflections

- Across x-axis

- Across y-axis

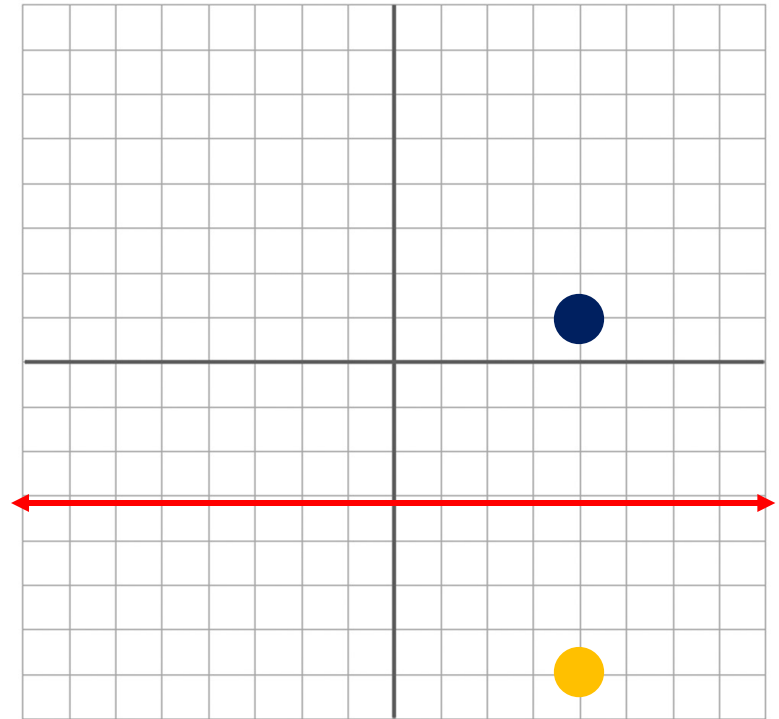- Across y=x line

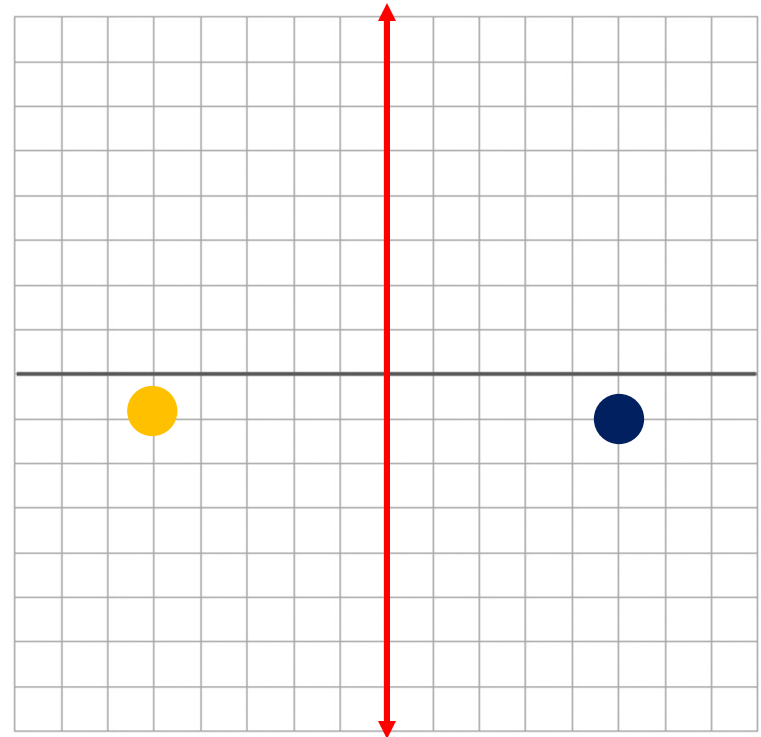Find the reflection image of (4, 1) across the line $y = -3$.

(4, 7)
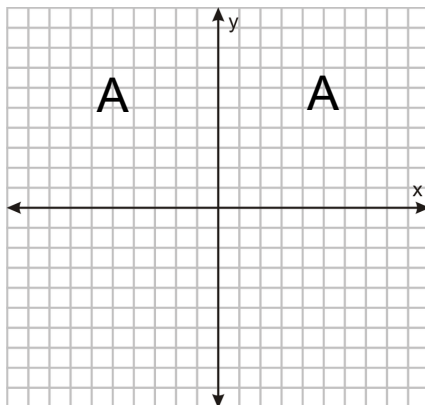
U4L8 – Reflections

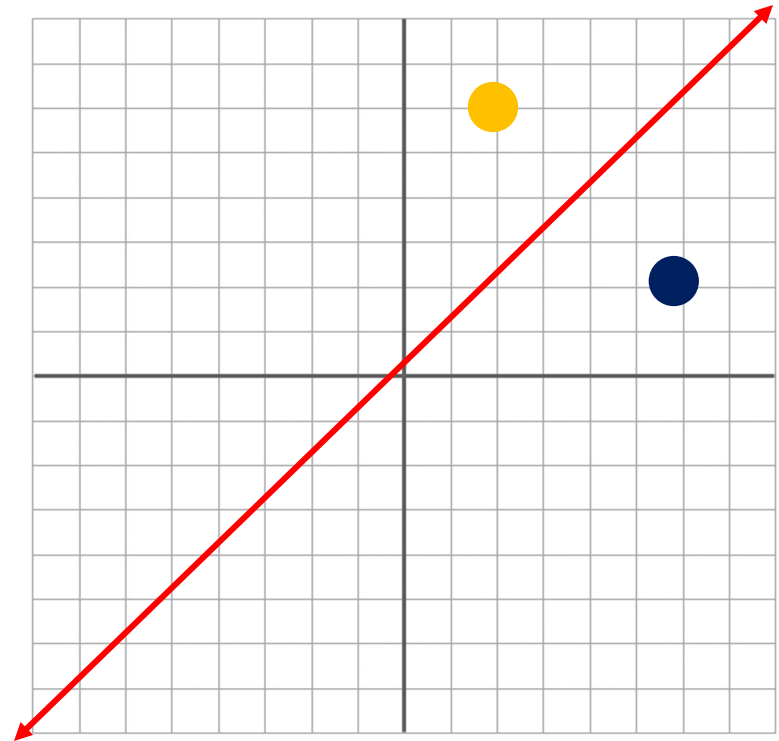Find the reflection image of (5, -1) across the y-axis.

(-5, -1)

U4L8 – Reflections

(2, 6)

Find the reflection image of (6, 2) across the line $y = x$.
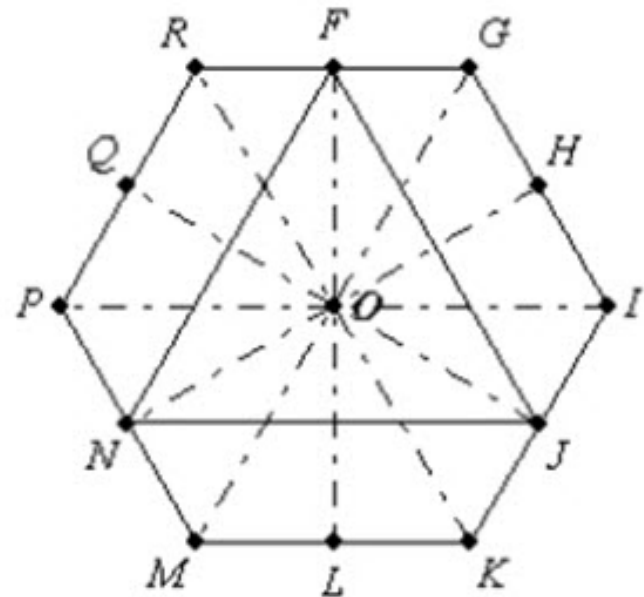
U4L8 – Rotations

The hexagon GIKMPR and triangle FJN are regular. The dashed line segments form 30° angles.

- What is the angle of rotation that maps $\overline{KL}$ to $\overline{IJ}$?

60°

- What is the image of $\overline{OQ}$ after a rotation of 120°?

$$\overline{OL}$$

What type(s) of symmetry does the figure have?

a)   Line symmetry only

b)   Rotational symmetry only

c)   Line and rotational symmetry

d)   No symmetry

d) No symmetry

U4L8 – Dilations

Find the coordinates of the vertices of the image of PQR for a dilation with center (0, 0) and scale factor 3. Is this an enlargement or a reduction?
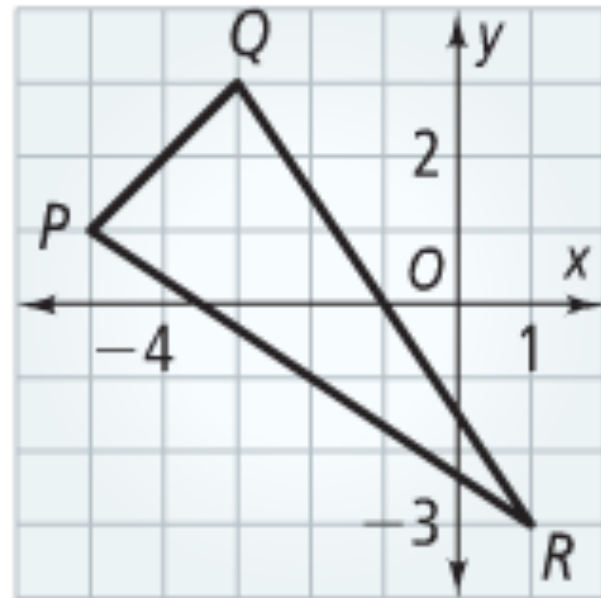
$$P\ (-5, 1)$$
$$Q(-3, 3)$$
$$R(1, -3)$$

$$\boldsymbol{P'\ (-15, 3)}$$
$$\boldsymbol{Q'(-9, 9)}$$
$$\boldsymbol{R'(3, -9)}$$
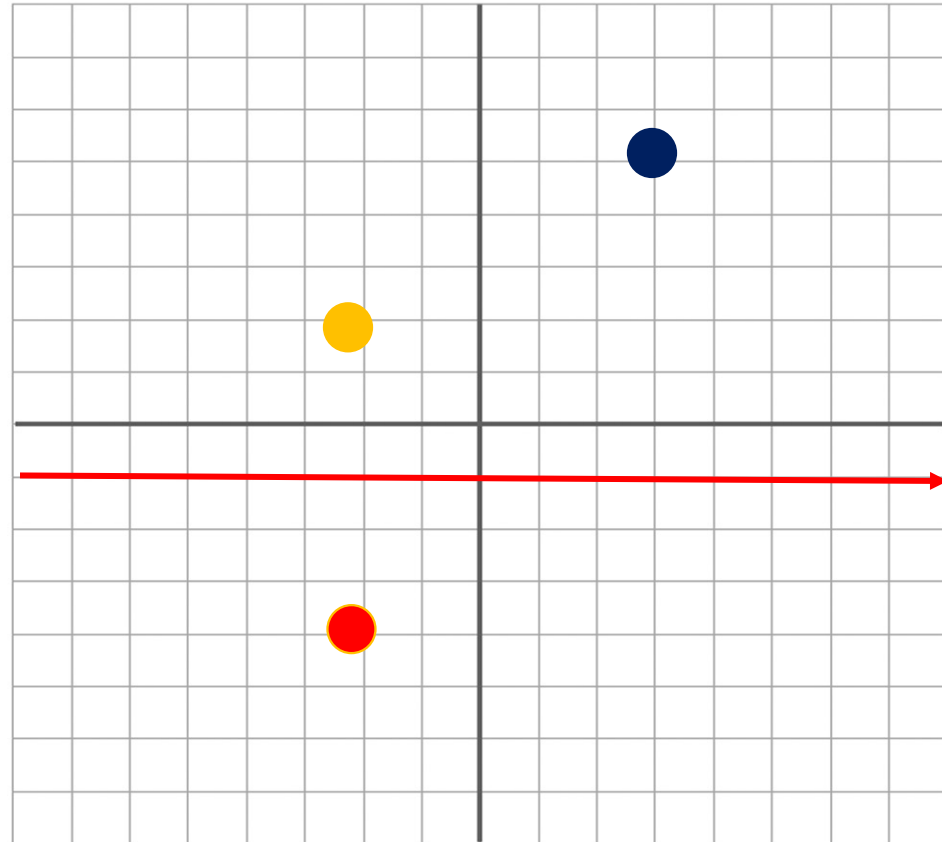
$H(3,5) \rightarrow H'$ for the glide reflection where the translation is $(x, y) \rightarrow (x - 5, y - 3)$ and the line of reflection is $y = -1$. What are the coordinates of H'?

$$yellow \ (-2, 2)$$

$$H' \ (-2, -4)$$

$C \rightarrow C'(3, -4)$ for the glide reflection where the translation is $(x, y) \rightarrow (x, y - 6)$ and the line of reflection is $x = 1$. What are the coordinates of C?
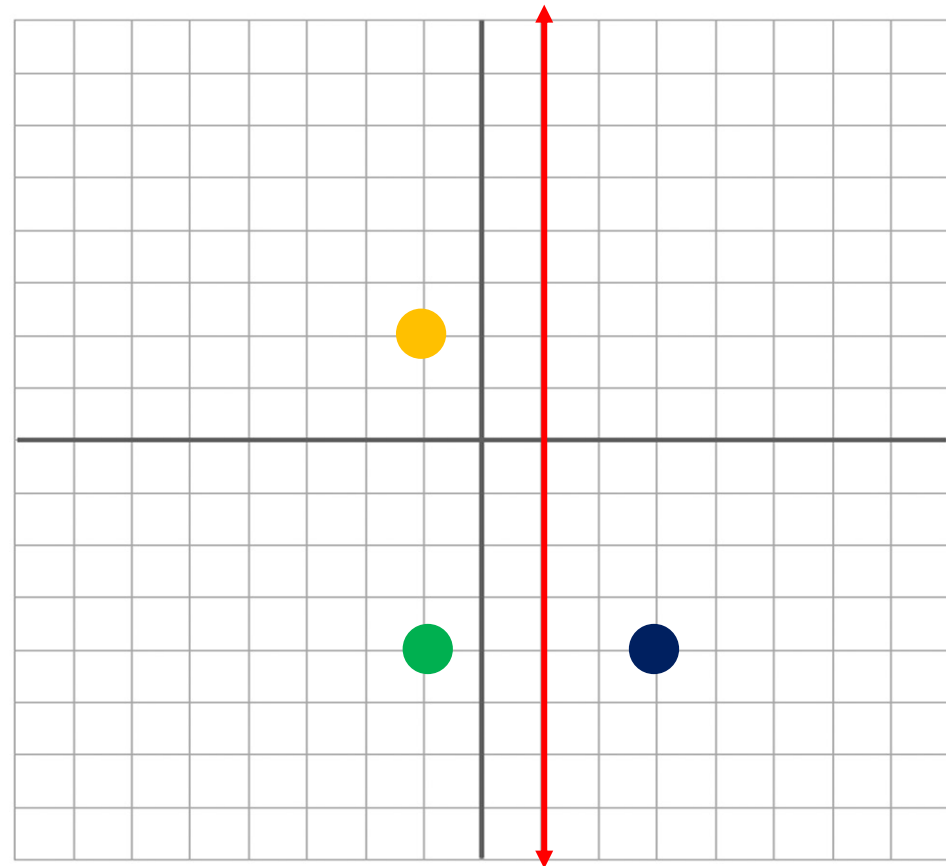
$C'(3, -4)$ {Blue}

$(-1, -4)$
{Green, reflected across x = 1}

$(x, y - 6)$
$(-1, y - 6 = -4)$

$(-1, 2)$ **{Yellow}**

Questions?

- Check the Message Board first

- Send a WebMail

- You can also make an appointment at https://elizondo.youcanbook.me

- You can also call me at (559) 549-3244. If I'm not available to answer your call, please leave a voicemail with your full name and phone number.