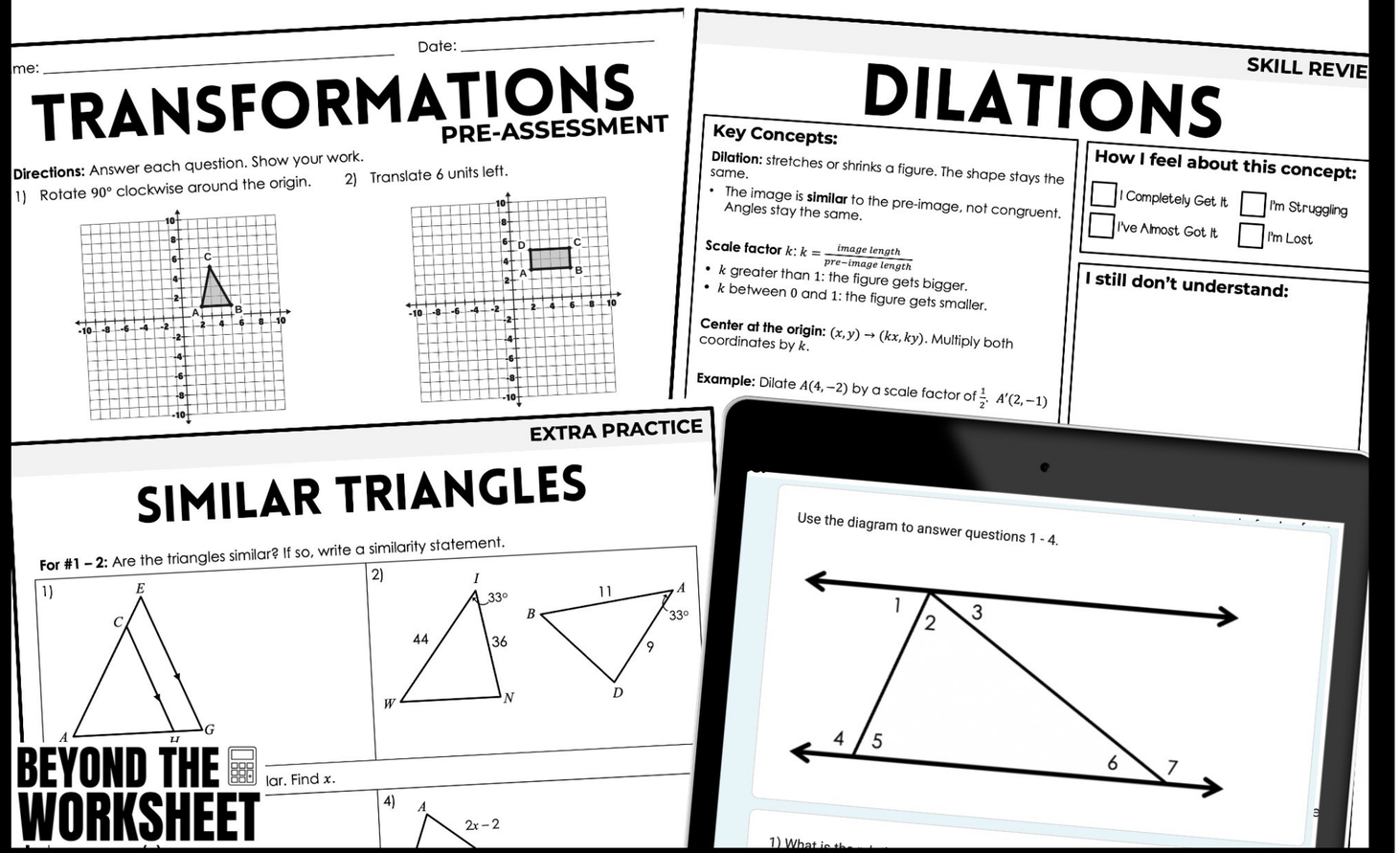
8TH GRADE MATH INTERVENTION UNIT

CONGRUENCY & SIMILARITY



BEYOND THE WORKSHEET

PRE + POST ASSESSMENTS • 10 TARGETED SKILLS • ERROR ANALYSIS

This 8th grade math intervention unit gives you two pre-assessments that pinpoint each student's gaps, and short, focused pages to reteach only the skills they missed. It covers transformations, parallel lines and transversals, and similar triangles.

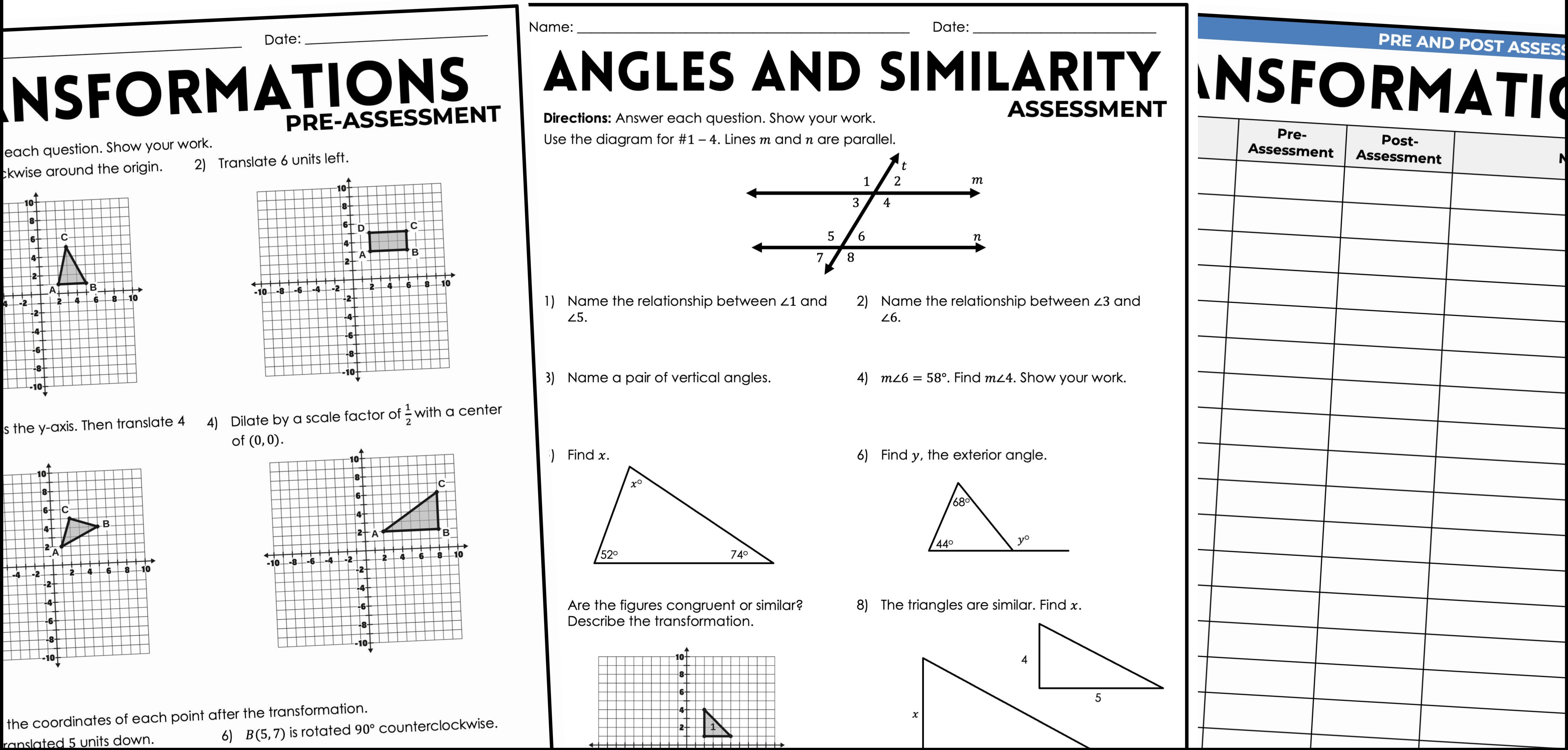
learn more!

WHAT'S INCLUDED:

- **Intervention Planning Sheets**
  Three planning formats are included to help organize intervention groups, targeted skills, and instructional plans.
- **Pre and Post Assessments**
  Use the pre-assessment to identify individual skill gaps and the post-assessment to measure growth after intervention. In print and Google Forms.
- **Skill Review**
  A concise review of the skill with key concepts, guided practice, and a student self-assessment.
- **Extra Practice**
  Additional problems for independent, pairs or small group practice.
- **Error Analysis**
  Students analyze incorrect work, identify the mistake, and determine the correct solution.
- **Progress Tracking**
  Record student performance across the Skill Review, Extra Practice, and Error Analysis pages.
- **Editable Version**
  Adjust wording and problems to perfectly meet your standards or student needs.

Resource	Pages
Resource Details	2 – 4
Intervention Plan Sheets	5 – 7
Tracking Sheets for Assessments	8, 35
Transformations Pre- & Post-Assessments	9, 34
Translations	10 – 13
Reflections	14 – 17
Rotations	18 – 21
Dilations	22 – 25
Multi-Step Transformations	26 – 29
Ordered Pair Transformations	30 – 33
Angles and Similarity Pre- & Post-Assessments	36, 53
Parallel Lines and Transversals	37 – 40
Triangle Angles	41 – 44
Similarity and Congruency	45 – 48
Similar Triangles	49 – 52

PRE & POST ASSESSMENTS



SKILLS REVIEW PAGES

SKILL REVIEW

RANSLATIONS

very point moves the same
direction.
ruent to the pre-image: same size

nge x. Up and down change y.

$y + b$)
. Up is +, down is −.

$A(2, 3)$ 4 units left and 1 unit down.
$-2, 2)$. The new point is $A'(-2, 2)$.

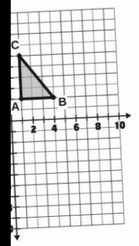
ex at a time. Then connect the new

How I feel about this concept:

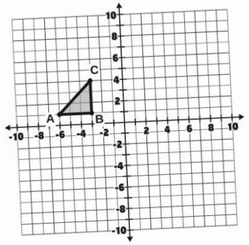
- ☐ I Completely Get It
- ☐ I'm Struggling
- ☐ I've Almost Got It
- ☐ I'm Lost

I still don't understand:

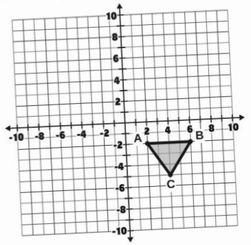
nits down.



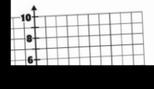
2) Translate 5 units right.



3) Translate 2 units left and 4 units up.



he translation
1 to figure 2.



5) $A(2, -3)$ is translated 4 units left.

Fill in the blank.

$A'($_____, _____$)$

6) Which rule moves a point 5 units left and 2 units up?

A) $(x + 5, y + 2)$

B) $(x - 5, y + 2)$

SKILL REVIEW

REFLECTIONS

Key Concepts:

Reflection: a flip across a line. The line works like a mirror.

- The image is **congruent** to the pre-image. It faces the opposite way.
- Each point is the same distance from the line as its image.

Across the x-axis: $(x, y) \rightarrow (x, -y)$. The y-value changes sign.

Across the y-axis: $(x, y) \rightarrow (-x, y)$. The x-value changes sign.

Example: Reflect $A(3, 4)$ across the x-axis. $A'(3, -4)$

Tip: Count the squares from each vertex to the line. Count the same number on the other side.

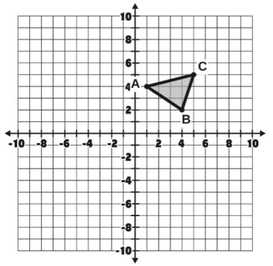
How I feel about this concept:

- ☐ I Completely Get It
- ☐ I'm Struggling
- ☐ I've Almost Got It
- ☐ I'm Lost

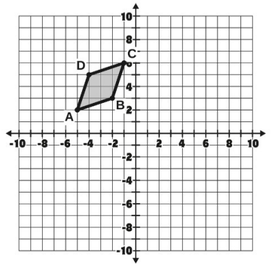
I still don't understand:

Practice:

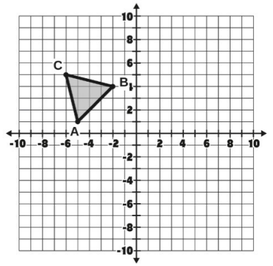
1) Reflect across the x-axis.



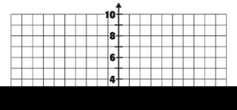
2) Reflect across the y-axis.



3) Reflect across the x-axis.



Describe the reflection from figure 1 to figure 2.



5) A shape in Quadrant III is reflected across the y-axis. Which quadrant is it in now?

6) Reflect $A(-2, 7)$ across the x-axis.

A) $(2, 7)$

B) $(-2, -7)$

ROTATIONS

nd a point. In this unit, the point is

ruent to the pre-image.
e the hands of a clock.
turns the other way.

$) \rightarrow (y, -x)$
se: $(x, y) \rightarrow (-y, x)$
$y)$. Both signs change.
matter.
e same as 90° counterclockwise.

) 90° clockwise. $A'(5, -2)$

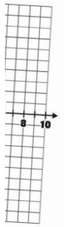
check. A 90° turn moves a shape

How I feel abou

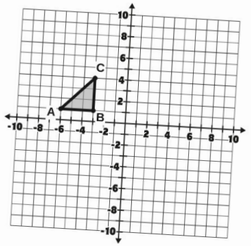
- ☐ I Completely Get It
- ☐ I've Almost Got It

I still don't unde

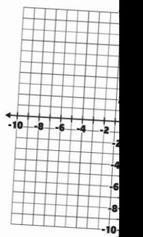
vise
.



2) Rotate 180° around the origin.



3) Rotate 90° clockwise origin.



on from

5) A shape in Quadrant I is rotated 90° clockwise around the origin. Which quadrant is it in now?

6) Rotate $A(3, 1$ counterclo

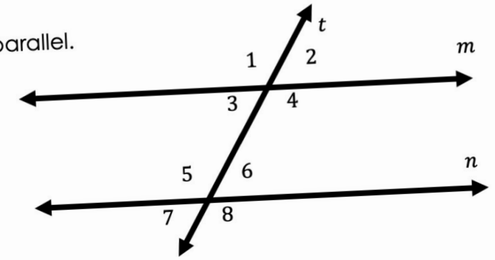
A) $(1, -3)$

EXTRA PRACTICE

EXTRA PRACTICE

EL LINES AND TRANSVERSALS

or #1 – 10. Lines m and n are parallel.



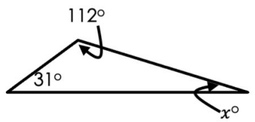
	2) What type of angles are $\angle 2$ and $\angle 7$?	3) What type of angles are $\angle 4$ and $\angle 6$?
Find the measure of every	6) Which pair of angles is supplementary? A) $\angle 1$ and $\angle 4$ B) $\angle 2$ and $\angle 6$ C) $\angle 3$ and $\angle 5$ D) $\angle 4$ and $\angle 5$	
and $m\angle 6 = 60°$. They are nterior angles. Find x.	8) $m\angle 1 = (5x + 10)°$ and $m\angle 8 = 135°$. Find x.	
	10) Corresponding angles formed by parallel	

EXTRA PRACTICE

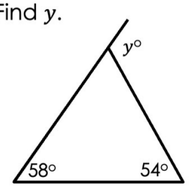
TRIANGLE ANGLE SUM AND EXTERIOR ANGLES

For #1 – 6: Find each missing angle.

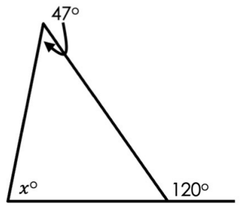
1) Find x.



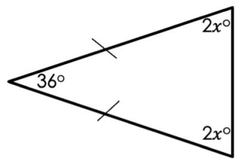
2) Find y.



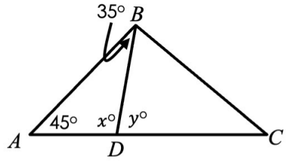
3) Find x.



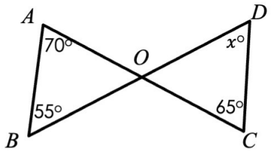
4) The triangle is isosceles. Find x.



5) Find x and y.



6) Find x.



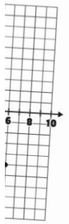
or #7 – 10: Read each problem carefully.

The angles of a triangle are $(x + 10)°$, $(x + 20)°$, and $(x + 30)°$. Find x and each angle.	8) A right triangle has one angle of 42°. Find the third angle.
Can a triangle have two right angles? Explain.	10) An exterior angle is greater than each remote interior angle.

E

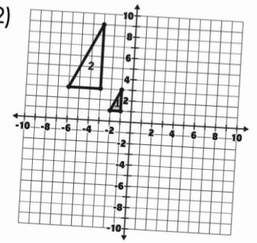
RITY AND CONGR

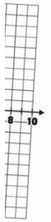
figures congruent or similar?
f transformations from figure 1 to figure 2.



congruent
similar

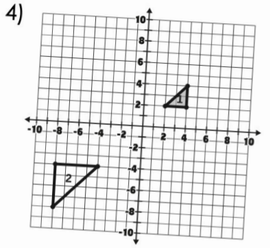
2)





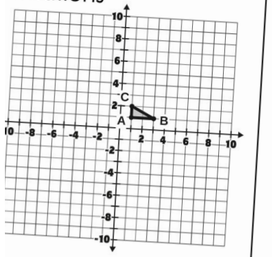
congruent
similar

4)

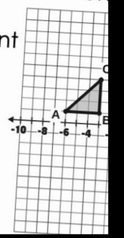


problem carefully.

ormations



6) Perform two transformation on the figure to make a congruent figure.



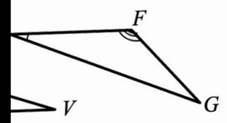
ERROR ANALYSIS

ERROR ANALYSIS

IMILAR TRIANGLES

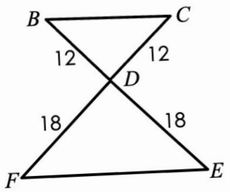
he error. Then explain it and solve the problem correctly.

s similar? If so, write a
ent.



r: $\triangle UVW \sim \triangle GEF$

2) Are the triangles similar?



Student answer: They are not similar.

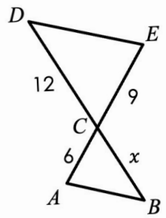
are similar. Find x.

er:

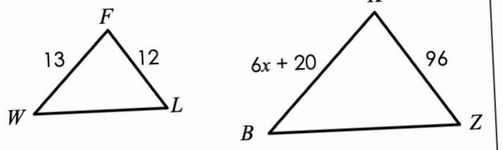
$\frac{12}{9} = \frac{6}{x}$

$12x = 54$

$x = 4.5$



4) The triangles are similar. Find x.



Student answer: $\frac{6x+20}{13} = \frac{12}{96} = 3.1$

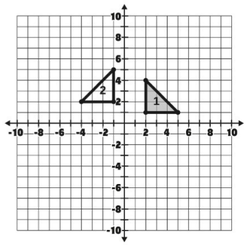
ERROR ANALYSIS

ROTATIONS

Directions: Identify the error. Then explain it and solve the problem correctly.

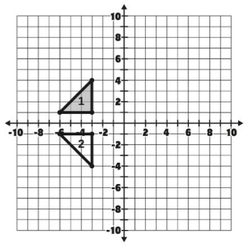
1) Rotate the shape 90° clockwise around the origin.

Student answer: Figure 2 is the image.



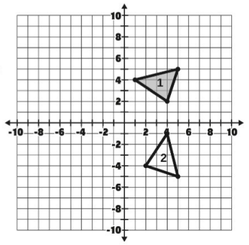
2) Rotate the shape 180° around the origin.

Student answer: Figure 2 is the image.



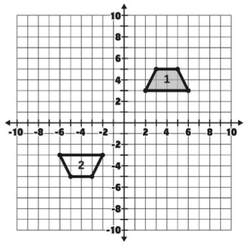
) Describe the transformation from figure 1 to figure 2.

Student answer: 90° counterclockwise rotation.



4) Describe the transformation from figure 1 to figure 2.

Student answer: 360° rotation.



Rotate $N(5,1)$ 180° around the origin.

Student answer: $N'(-5,1)$

6) Rotate $K(2,6)$ 90° clockwise around the origin.

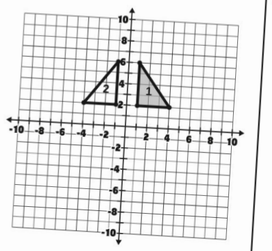
Student answer: $K'(-6,2)$

E

REFLECTION

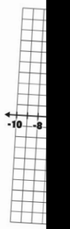
the error. Then explain it and solve the problem correctly

e across the x-axis.

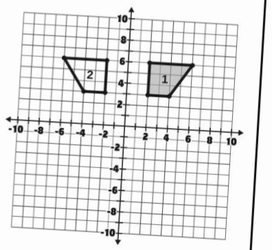


2) Reflect the shape acro

Student answer: Figure 2 is the image.

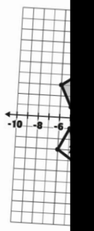


sformation from figure 1



4) Describe the transformati to figure 2.

Student answer: It was reflected across the y-axis.



ross the x-axis.

3, −2)

6) Reflect $D(4,5)$ across the y-

Student answer: $D'(-5,4)$

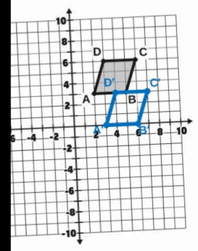
TEACHER PAGES & ANSWER KEY

EXTRA PRACTICE

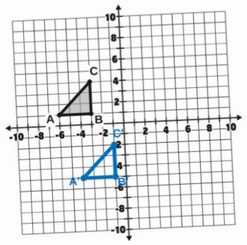
RANSLATIONS

each figure. Label the new vertices.

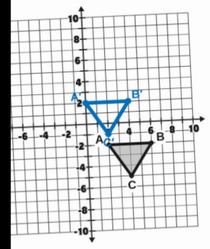
units down



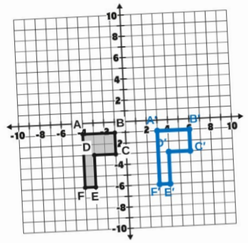
2) 6 units down and 2 units right



4 units up

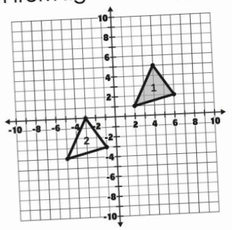


4) 7 units right



each problem carefully.

translation from figure 1 to figure



and
wn

6) Write a rule for the translation in #5.

$(x, y) \rightarrow$ $(x-7, y-5)$

nslated 3
d 8 units

8) A figure is translated with the rule $(x, y) \rightarrow$

9) $B'(1, -2)$ is the image of B after a translation 6 units

10) A translated figure is congruent to the original figure.

8TH GRADE MATH INTERVENTION PROGRAM

Resource: 8th Grade Math Intervention Unit 6 – Congruency and Similarity

Suggested Class Time: 30 minutes at a time as needed

The Big Idea

- This unit provides **targeted intervention and additional practice** with translations, reflections, rotations, and dilations on the coordinate plane, angle relationships with parallel lines and triangles, and congruent and similar figures. The unit is split into two sections (Transformations, and Angles and Similarity), each with its own pre- and post-assessment. Each skill review also revisits the earlier skills students need, such as plotting points, integer signs, angle measures, and proportions.
- Use the pre-assessment to identify specific skill gaps, then assign only the skill pages students need. The materials work best in **teacher-led small groups**, but the Extra Practice and Error Analysis pages can also be used for independent practice, partner work, reteaching, or progress monitoring.

Each skill comes with:

- **Skill Review**
  A concise review of the skill with key concepts, guided practice, and a student self-assessment.
- **Extra Practice**
  Additional problems students can complete independently, with a partner, or as continued small-group practice.
  Error Analysis
  Students analyze incorrect work, identify the mistake, and determine the correct solution. This provides an opportunity to uncover misconceptions that may not be obvious from a correct/incorrect answer alone.
  Progress Tracking
  Record student performance across the Skill Review, Extra Practice, and Error Analysis pages to monitor growth and determine next steps.

lso included:

Pre- & Post-Assessments
Use the pre-assessment to identify individual skill gaps and the post-assessment to measure growth after intervention. Print and Google Forms versions are included.
Intervention Planning Sheets
Three planning formats are included to help organize intervention groups, targeted skills, and instructional plans. These can also be used to communicate plans with interventionists, assistants, or other support staff.

GGESTED INTERVENTION FLOW
Assess → 2. Identify Skill Gaps → 3. Review & Reteach → 4. Practice → 5. Analyze Errors → 6. Reassess

ndards (CCSS)
8.G.1, 8.G.2, 8.G.3, 8.G.4, 8.G.5
Gap skills reviewed: 6.NS.6b, 7.G.5, 7.RP.2

l Progression

equisite Skills	**Skills Addressed in This Unit**	**Skills Students Will Build Toward**
lotting ordered pairs teger operations easuring angles olving proportions	• Translations • Reflections • Rotations • Dilations	• Pythagorean theorem • Volume

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8TH GRADE MATH INTERVE

eptions & Teaching Tips

D REFLECTIONS

nts moving the wrong coordinate or reflecting across th
changes x. Up/down changes y. Reflecting across the x

ts mixing up clockwise and counterclockwise.
aper. A 90° turn moves a shape one quadrant. Track on

s adding the scale factor instead of multiplying.
th coordinates by k. Check: the new figure should have

doing every step to the original figure.
ge from step 1 as the start of step 2. Track one point in a

mixing up which angle pairs are equal and which add to
y look the same size?" Equal-looking angles are equal. C

riting the vertices out of order, or adding instead of mult
before writing the statement. Similar sides grow by multi