

Geometry Unit 8: Year-to-date Regents review

Bronx Early College Academy

Christopher J. Huson PhD

13 February 2023 - 17 February 2023

8.1 Triangle angles	13 February
8.2 Transversals and isosceles triangles	14 February
8.3 Midpoint, segment partition	16 February
7.4 Composition	23 January
7.5 Composition review	1 February
7.6 Using technology for transformations	3 February
7.7 Transformations “onto,” symmetry	6 February
7.8 Line of symmetry	7 February

Learning Target: I can calculate triangle angles

HSG.CO.A.5 Congruence transformations

8.1 Monday 13 February

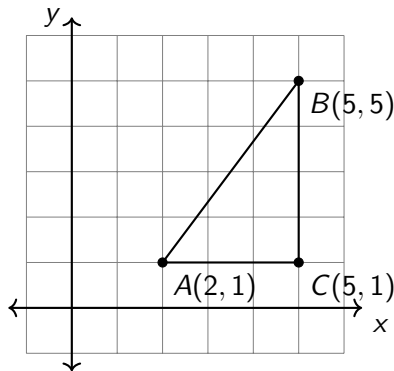
Do Now

1. Review your Jumprope grades
2. Right $\triangle ABC$ with $m\angle A = 53^\circ$. Find $m\angle B$

Lesson: Internal and external triangle angle measures

Homework: Complete the classwork practice,

Deltamath problem set



Triangle angle theorems, internal and external angle measures

Find this information in your notebook (October 24th)

Triangle sum theorem $m\angle A + m\angle B + m\angle C = 180^\circ$

External angle theorem $m\angle A + m\angle B = m\angle BCD$

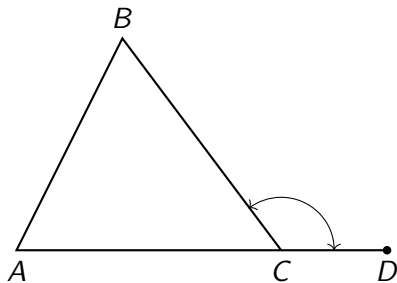
Linear pair angles that make a straight line, 180°

Supplementary angles that sum to 180°

Complementary angles that sum to 90°

Interior Inside, internal

Exterior Outside, external



Learning Target: I can work with parallel lines

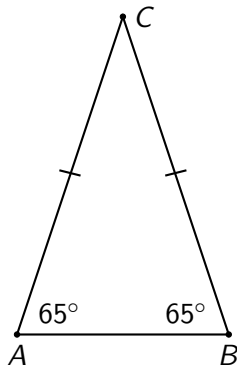
HSG.CO.A.5 Congruence transformations

8.2 Tuesday 14 February

Do Now: Isosceles $\triangle ABC$ has two angles measuring 65° .
Find the measure of the 3rd angle, $m\angle C$.

Lesson: Isosceles triangles, parallel lines and transversals

Homework: Complete classwork, Deltamath assignment



Learning Target: I can partition a line segment

HSG.CO.A.5 Congruence transformations

8.3 Thursday 16 February

Do Now: Find the angle measures of right $\triangle ABC$.

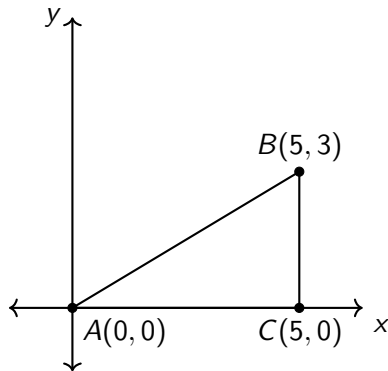
$$m\angle A = 30^\circ$$

$$m\angle B =$$

$$m\angle C =$$

Lesson: Rotation, classwork practice

Homework: Complete classwork, Deltamath assignment



Learning Target: I can employ multiple rigid motions

HSG.CO.A.5 Congruence transformations

7.4 Monday 23 January

Do Now: Rotate $\triangle ABC$ counterclockwise 90° around the origin.

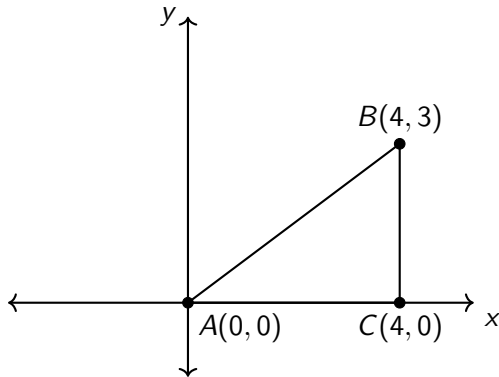
$A(0, 0) \rightarrow$

$B(4, 3) \rightarrow$

$C(4, 0) \rightarrow$

Lesson: Composition of transformations,
mixed practice

Homework: Complete classwork, Deltamath
assignment



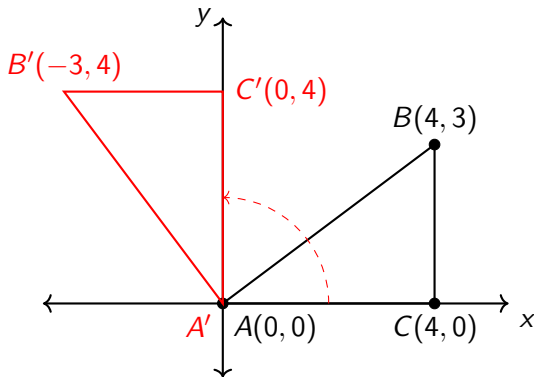
Solution: Rotate $\triangle ABC$ counterclockwise 90° around the origin.

$$A(0,0) \rightarrow A'(0,0)$$

$$B(4,3) \rightarrow B'(-3,4)$$

$$C(4,0) \rightarrow C'(0,4)$$

Check for understanding: What is the measure of angle $\angle CAC'$?



A *composition* is multiple transformations, one after the other

Example: Translate $\triangle ABC$ to the right 5 units then reflect it over the x -axis.

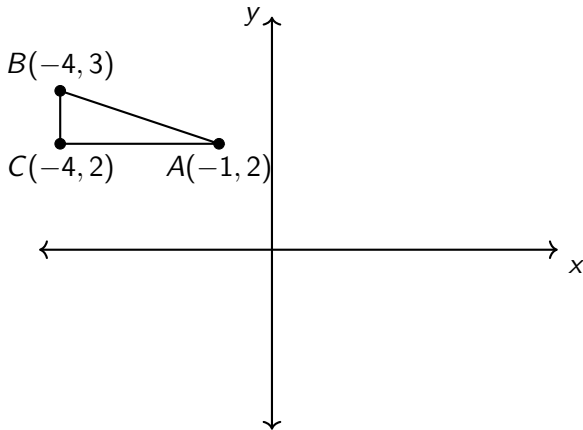
$$T_{+5,0}$$

reflect_{x-axis}

$$A(-1, 2) \rightarrow$$

$$B(-4, 3) \rightarrow$$

$$C(-4, 2) \rightarrow$$



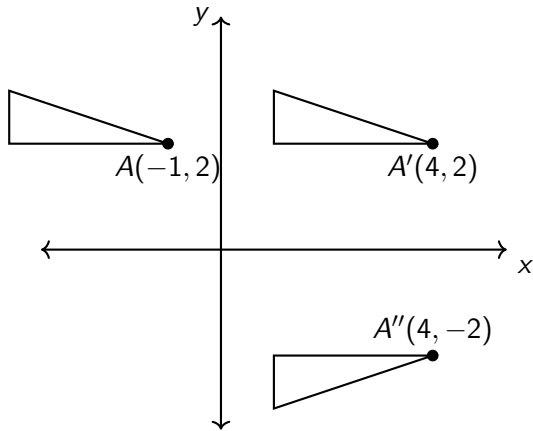
Translate $\triangle ABC$ to the right 5 units then reflect it over the x -axis.

$T_{+5,0}$ $reflect_{x-axis}$

$$A(-1, 2) \rightarrow A'(4, 2) \rightarrow A''(4, -2)$$

$$B(-4, 3) \rightarrow B'(1, 3) \rightarrow B''(1, -3)$$

$$C(-4, 2) \rightarrow C'(1, 2) \rightarrow C''(1, -2)$$



Learning Target: I can employ multiple rigid motions

HSG.CO.A.5 Congruence transformations

7.5 Wednesday 1 February

Do Now: Slide $\triangle ABC$ to the left three and up two.

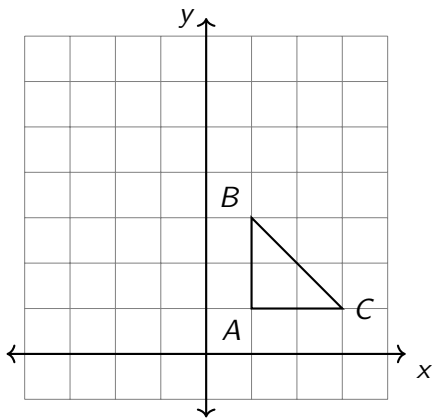
$$A(1, 1) \rightarrow$$

$$B(1, 3) \rightarrow$$

$$C(3, 1) \rightarrow$$

Lesson: Composition of transformations,
mixed practice

Homework: Complete classwork, Deltamath
assignment



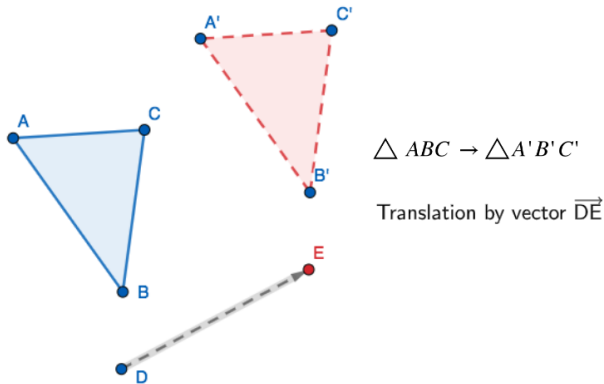
Learning Target: I can record a transformation using geogebra

HSG.CO.A.5 Congruence transformations

7.6 Friday 3 February

Do Now: Open the attached slide document and edit your name

Lesson: Use geogebra to perform a translation, reflection, and rotation



Learning Target: I can recognize symmetry

HSG.CO.A.5 Congruence transformations

7.7 Monday 6 February

Do Now: Reflect the \triangle across the y -axis.

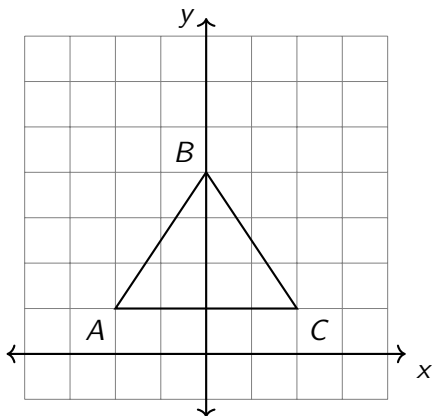
$$A(-2, 1) \rightarrow$$

$$B(0, 4) \rightarrow$$

$$C(2, 1) \rightarrow$$

Lesson: Transformations "onto," symmetry

Homework: Complete classwork, Deltamath assignment



Learning Target: I can recognize symmetry

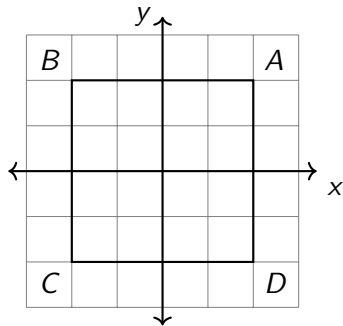
Rotate the square 90° counterclockwise around its center.

onto When the image of a figure is congruent to the original figure

symmetry When a figure is invariant under a transformation

bilateral symmetry When a figure is the same after a reflection across its mid-line

radial symmetry A shape is the same after a rotation around its center



Learning Target: I can construct a line of symmetry using Geogebra

HSG.CO.A.5 Congruence transformations

7.8 Tuesday 7 February

Do Now Pre-Quiz: Deltamath practice test
(20 minutes max).

Folder check: 7.7 Problem set complete?

Lesson: Geogebra line of symmetry

Homework: Complete transformations slides

line of symmetry

