



Unit 1

Cool-downs

Rigid Transformations and Congruence

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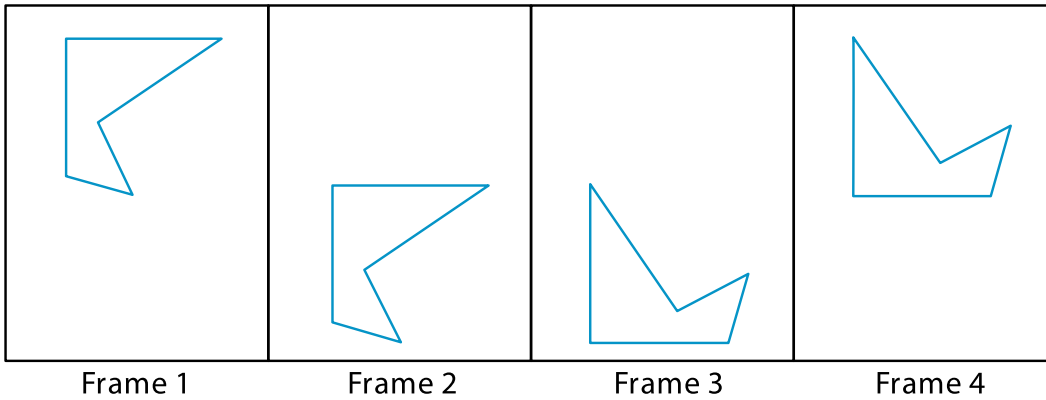
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Unit 1, Lesson 1

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1.3 Frame to Frame

Here are successive positions of a shape:



Describe how the shape moves from:

1. Frame 1 to Frame 2.

2. Frame 2 to Frame 3.

3. Frame 3 to Frame 4.



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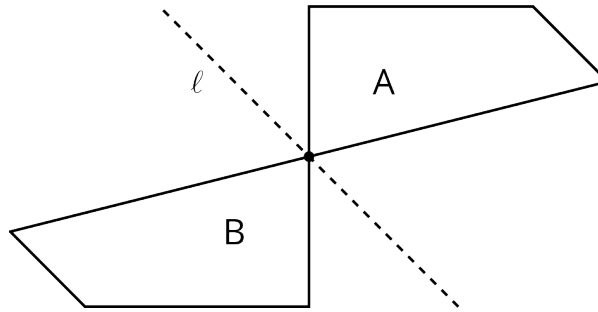
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2.4 Is It a Reflection?

What type of move takes Figure A to Figure B?



Explain your reasoning.



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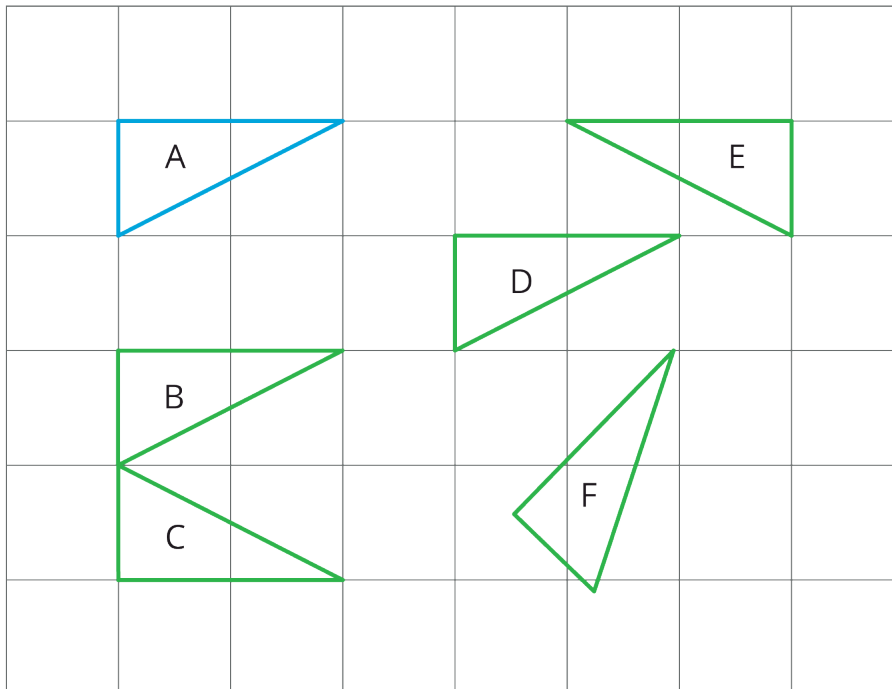
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3.3 Some are Translations and Some Aren't

Which of these triangles are translations of Triangle A? Select **all** that apply.



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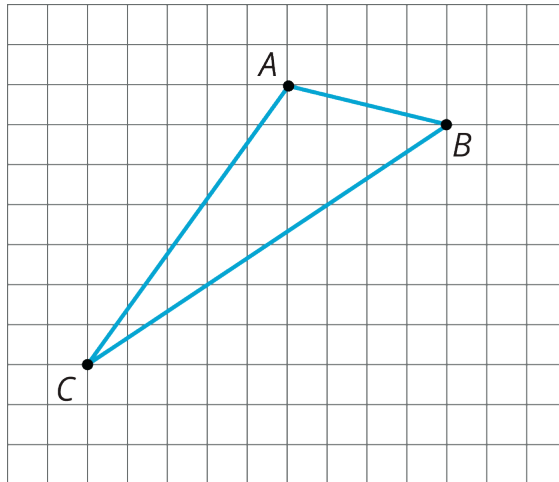
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4.4 What Does It Take?



1. If you were to describe a translation of triangle ABC , what information would you need to include in your description?

2. If you were to describe a rotation of triangle ABC , what information would you need to include in your description?

3. If you were to describe a reflection of triangle ABC , what information would you need to include in your description?

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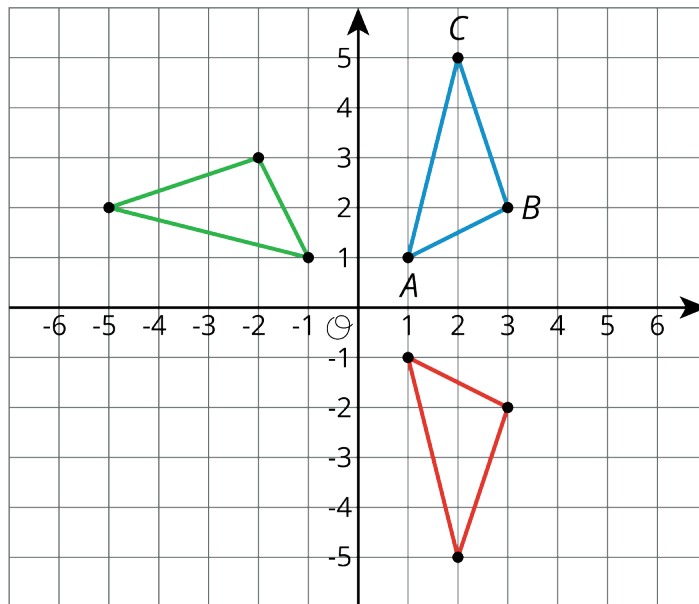
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5.4 Rotation or Reflection

One of the triangles pictured is a rotation of triangle ABC and one of them is a reflection.



1. Identify the center of rotation, and label the rotated image PQR .
2. Identify the line of reflection, and label the reflected image XYZ .



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Unit 1, Lesson 6**Cool-down****6.3 Describing a Sequence of Transformations**

Jada applies two transformations to a polygon in the coordinate plane. One of the transformations is a translation and the other is a reflection. What information does Jada need to provide to communicate the transformations she has used?

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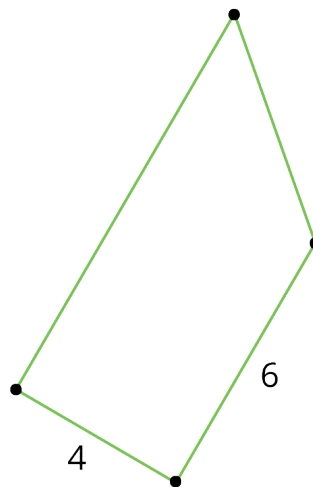
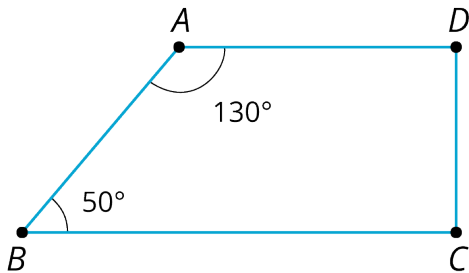
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7.4 Translated Trapezoid

Trapezoid $A'B'C'D'$ is the image of trapezoid $ABCD$ under a rigid transformation.



1. Label all vertices on trapezoid $A'B'C'D'$.
2. On both figures, label all known side lengths and angle measures.



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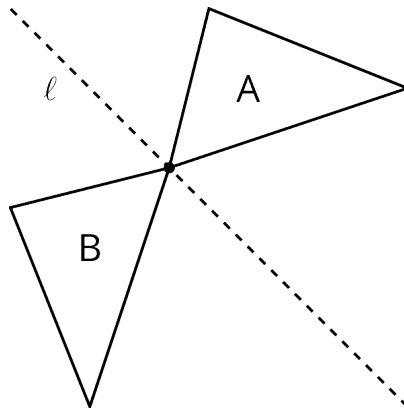
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8.4 Is it a rotation?

Here are two triangles.



Is Triangle B a rotation of Triangle A? Explain your reasoning.

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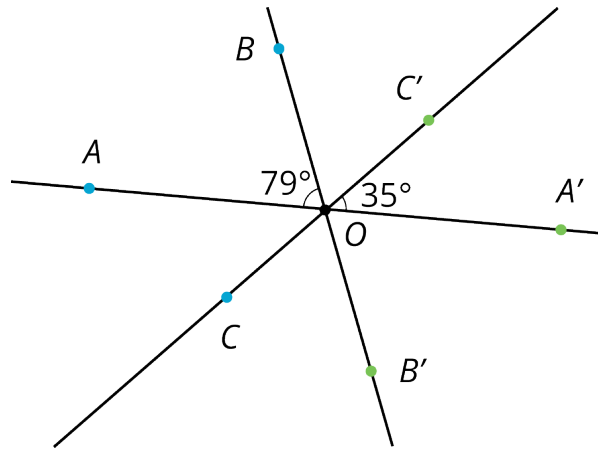
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9.4 Finding Missing Measurements

Points A' , B' , and C' are the images of 180-degree rotations of A , B , and C , respectively, around point O .



Answer each question and explain your reasoning *without* measuring segments or angles.

1. Name a segment whose length is the same as segment AO .

2. What is the measure of angle $A'OB'$?

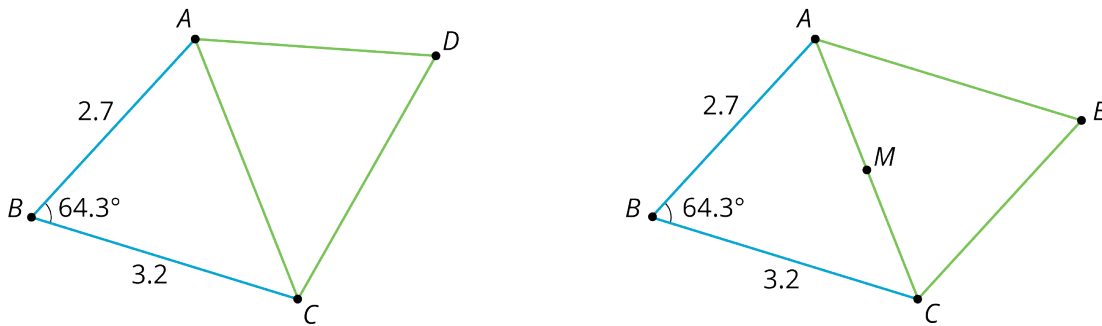
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10.5 Identifying Side Lengths and Angle Measures



Here is a diagram showing triangle ABC and some transformations of triangle ABC .

On the left side of the diagram, triangle ABC has been *reflected* across line AC to form quadrilateral $ABCD$. On the right side of the diagram, triangle ABC has been *rotated* 180 degrees using midpoint M as a center to form quadrilateral $ABCE$.

Using what you know about rigid transformations, side lengths and angle measures, label as many side lengths and angle measures as you can in quadrilaterals $ABCD$ and $ABCE$.

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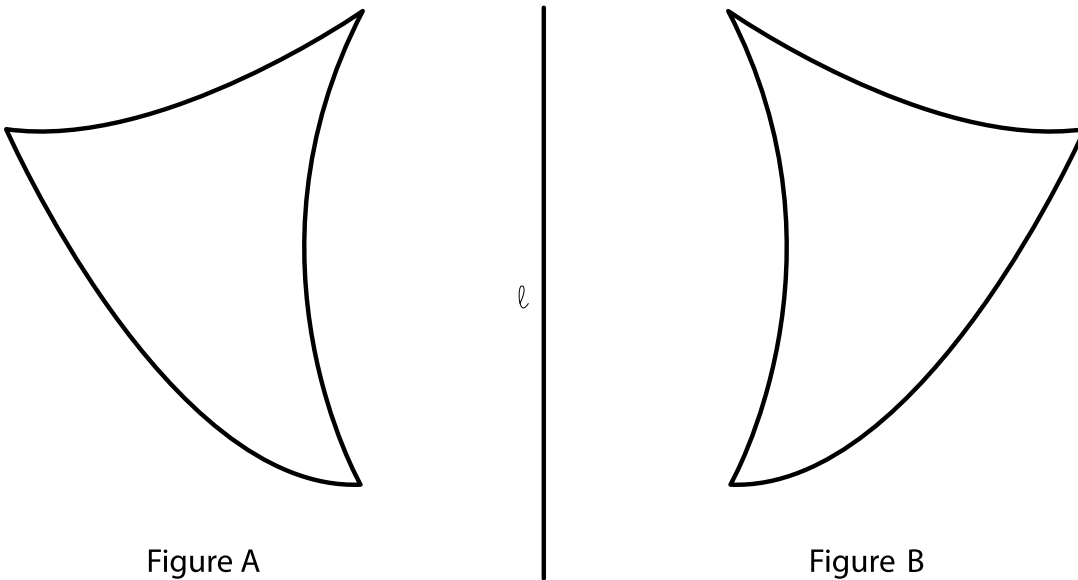
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11.4 Mirror Images

Figure B is the image of Figure A when reflected across line ℓ . Are Figure A and Figure B congruent? Explain your reasoning.



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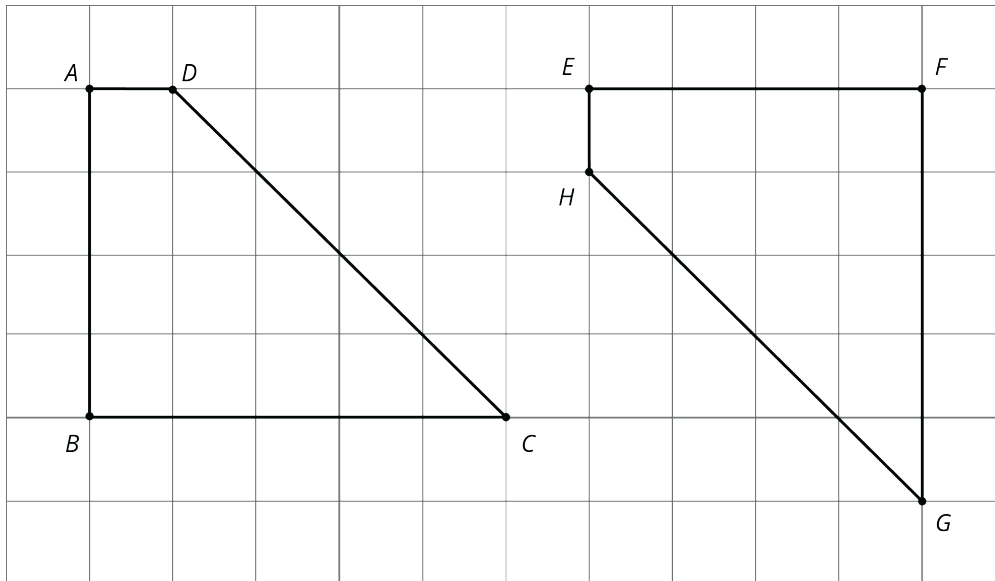
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12.5 Moving to Congruence

Describe a sequence of reflections, rotations, and translations that shows that quadrilateral $ABCD$ is congruent to quadrilateral $EFGH$.





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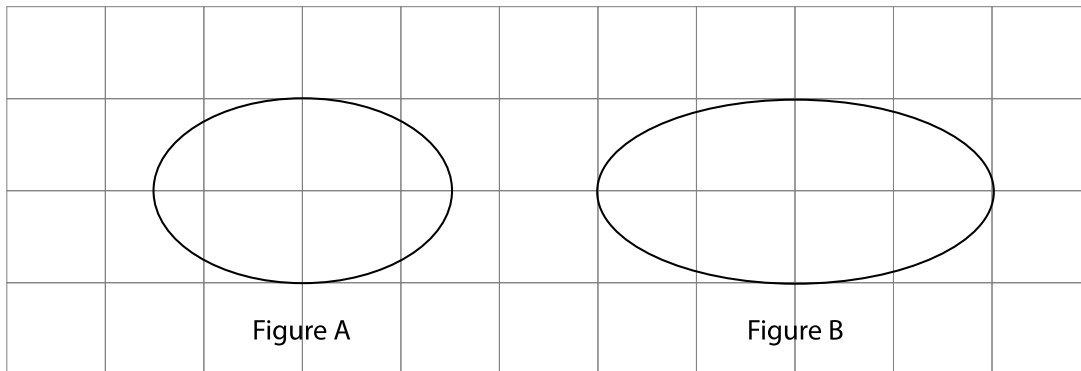
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13.5 Explaining Congruence

Are Figures A and B congruent? Explain your reasoning.



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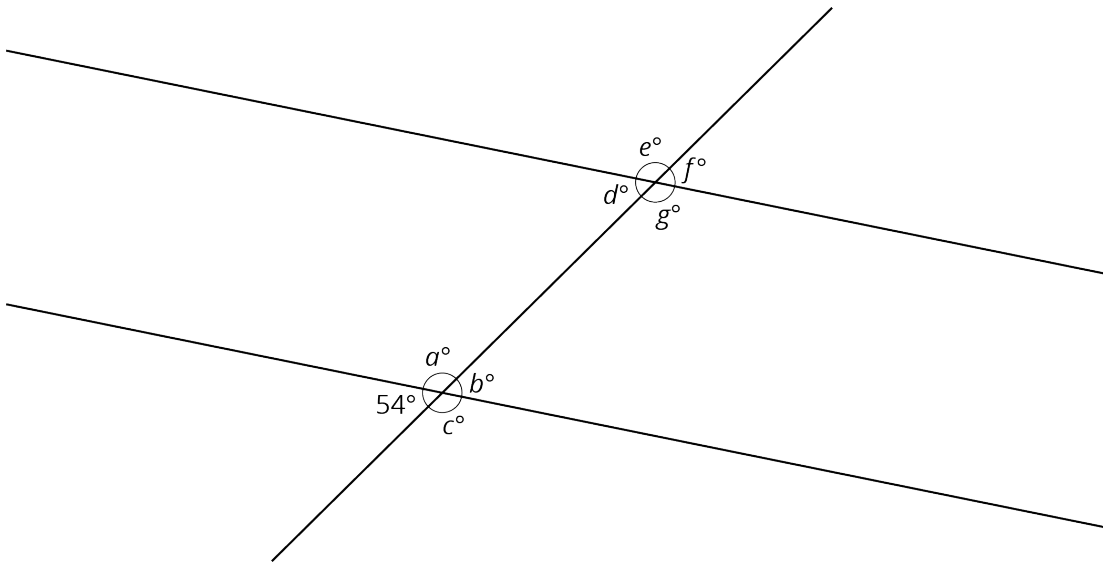
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14.4 All The Rest

The diagram shows two parallel lines cut by a transversal. One angle measure is shown.



Find the values of a , b , c , d , e , f , and g .



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Unit 1, Lesson 15**Cool-down****15.4 Missing Angle Measures**

In triangle ABC , the measure of angle B is 50 degrees.

1. Give possible values for the measures of angles A and C if ABC is an acute triangle.

2. Give possible values for the measures of angles A and C if ABC is an obtuse triangle.

3. Give possible values for the measures of angles A and C if ABC is a right triangle.



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Unit 1, Lesson 16**Cool-down****16.5 Angle Sizes**

1. In an equilateral triangle, all side lengths are equal and all angle measures are equal. Sketch an equilateral triangle. What are the measures of its angles?

2. In an isosceles triangle, which is not equilateral, two side lengths are equal and two angle measures are equal. Sketch three different isosceles triangles.

3. List two different possibilities for the angle measures of an isosceles triangle.