Identical Triangles

1. The following triangles are identical and have the correspondence . Find the measurements for each of the following sides and angles.

_____

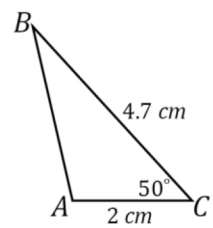
_____

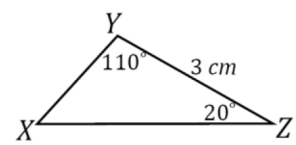
_____

_____

_____

_____





2. Explain why correspondences are useful.

© 2014 Common Core, Inc. Some rights reserved. commoncore.org

This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.

Given the following triangle correspondences, use double arrows to show the correspondence between vertices, angles, and sides.

1.

Triangle Correspondence	
Correspondence of Vertices	
Correspondence of Angles	
Correspondence of Sides	

2.

Triangle Correspondence	
Correspondence of Vertices	
Correspondence of Angles	
Correspondence of Sides	

3.

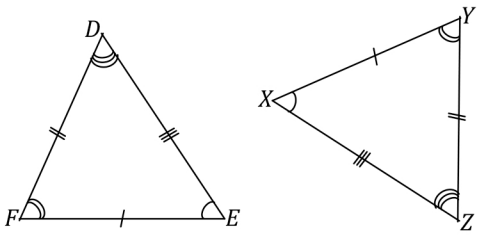
Triangle Correspondence	
Correspondence of Vertices	
Correspondence of Angles	
Correspondence of Sides	

© 2014 Common Core, Inc. Some rights reserved. **commoncore.org**

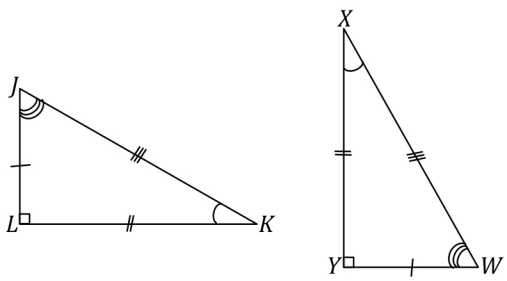
This work is licensed under a
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.

Name the angle pairs and side pairs to find a triangle correspondence that matches sides of equal length and angles of equal angles measurements.

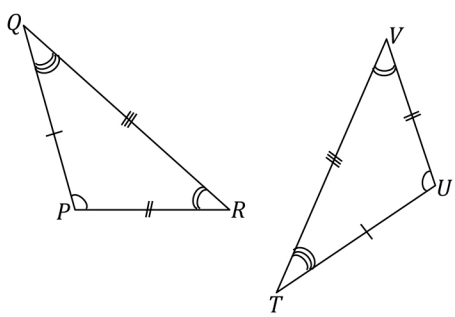
4.



5.

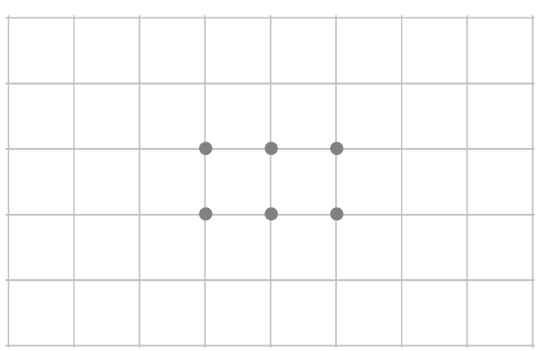


6.



7. Consider the following points in the coordinate plane.

   a. How many different (non-identical) triangles can be drawn using any three of these six points as vertices?



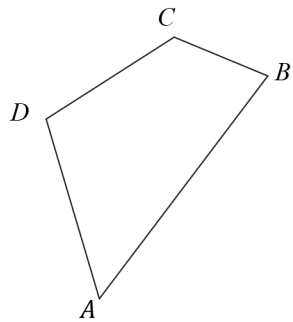
   b. How can we be sure that there are no more possible triangles?

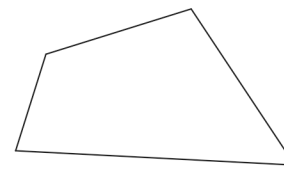
© 2014 Common Core, Inc. Some rights reserved. **commoncore.org**

This work is licensed under a
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.

8. Quadrilateral is identical with Quadrilateral with a correspondence , , and .

a. In the figure below, label points , , , and on the second quadrilateral.





b. Set up a correspondence between the side lengths of the two quadrilaterals that matches sides of equal length.

c. Set up a correspondence between the angles of the two quadrilaterals that matches angles of equal measure.

© 2014 Common Core, Inc. Some rights reserved. **commoncore.org**

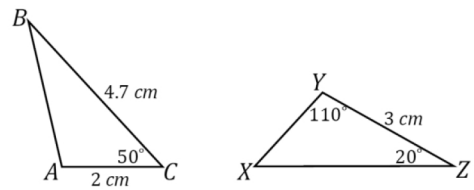
This work is licensed under a
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.

1. The following triangles are identical and have the correspondence . Find the measurements for each of the following sides and angles.

cm

cm

cm



2. Explain why correspondences are useful.

A correspondence allows a systematic way to compare parts of two triangles. We can make statements about similarities or differences between two triangles using a correspondence, whereas without one we would not have a reference system to make such comparisons.

Given the following triangle correspondences, use double arrows to show the correspondence between vertices, angles, and sides.

1.

Triangle Correspondence	
Correspondence of Vertices	⟷ ⟷ ⟷
Correspondence of Angles	⟷ ⟷ ⟷
Correspondence of Sides	⟷ ⟷ ⟷

© 2014 Common Core, Inc. Some rights reserved. commoncore.org

BY-NC-SA This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.

2.

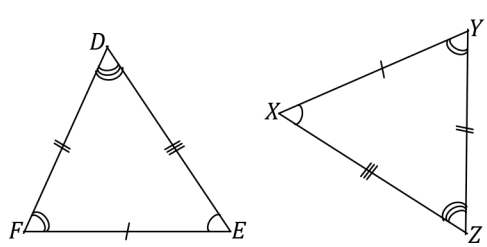
Triangle Correspondence	
Correspondence of Vertices	$\longleftrightarrow$ $\longleftrightarrow$ $\longleftrightarrow$
Correspondence of Angles	$\longleftrightarrow$ $\longleftrightarrow$ $\longleftrightarrow$
Correspondence of Sides	$\longleftrightarrow$ $\longleftrightarrow$ $\longleftrightarrow$

3.

Triangle Correspondence	
Correspondence of Vertices	$\longleftrightarrow$ $\longleftrightarrow$ $\longleftrightarrow$
Correspondence of Angles	$\longleftrightarrow$ $\longleftrightarrow$ $\longleftrightarrow$
Correspondence of Sides	$\longleftrightarrow$ $\longleftrightarrow$ $\longleftrightarrow$

Name the angle pairs and side pairs to find a triangle correspondence that matches sides of equal length and angles of equal angles measurements.

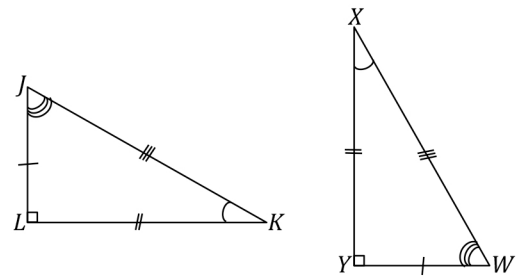
4.



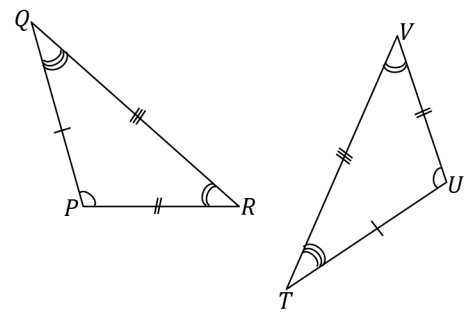
© 2014 Common Core, Inc. Some rights reserved. **commoncore.org**

This work is licensed under a
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.

5.

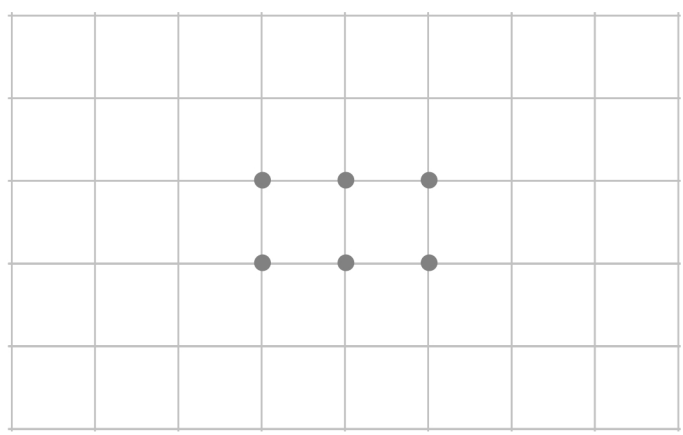


6.

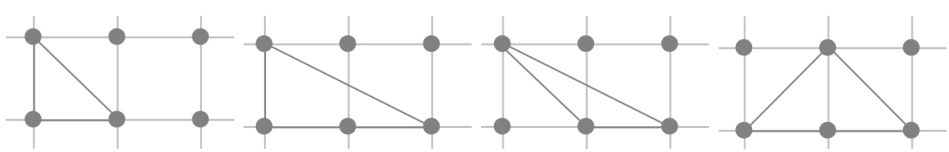


7. Consider the following points in the coordinate plane.

a. How many different (non-identical) triangles can be drawn using any three of these six points as vertices?



There are a total of triangles, but only different triangles. Each triangle is identical with one of these four:



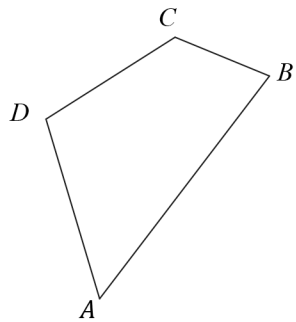
b. How can we be sure that there are no more possible triangles?

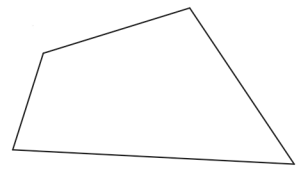
Any other triangle will have a correspondence so that equal sides and angles of equal measurement can be lined up (i.e., one can be laid over another and the two triangles will match).

© 2014 Common Core, Inc. Some rights reserved. **commoncore.org**

BY-NC-SA This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.

8. **Quadrilateral is identical with Quadrilateral with a correspondence , , , and .**





a. **In the figure below, label points , , , and on the second quadrilateral.**

b. **Set up a correspondence between the side lengths of the two quadrilaterals that matches sides of equal length.**

, , , and

c. **Set up a correspondence between the angles of the two quadrilaterals that matches angles of equal measure.**

, , , and

© 2014 Common Core, Inc. Some rights reserved. **commoncore.org**

This work is licensed under a
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.