

# Angle Side Angle Worksheet and Activity

## URL on the Angle Side Angle Postulate

[http://www.mathwarehouse.com/geometry/congruent\\_triangles/angle-side-angle-postulate.php](http://www.mathwarehouse.com/geometry/congruent_triangles/angle-side-angle-postulate.php)

© [www.mathwarehouse.com](http://www.mathwarehouse.com)

All Rights Reserved  
Commercial Use Prohibited

**TEACHERS:** Feel free to make copies of this worksheet for the sole purpose of use in your own classroom. ENJOY!!! Redistribution in any other form is prohibited.

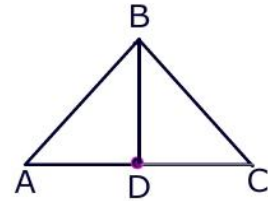
More Math worksheets and activities available at  
[www.mathwarehouse.com/classroom/worksheets-and-activities.php](http://www.mathwarehouse.com/classroom/worksheets-and-activities.php)

Play Math Games at [TheMathGames.com](http://TheMathGames.com)

**Warm Up** →

**Given:** BD is a perpendicular bisector of AC,

What statements and reasons can you make?

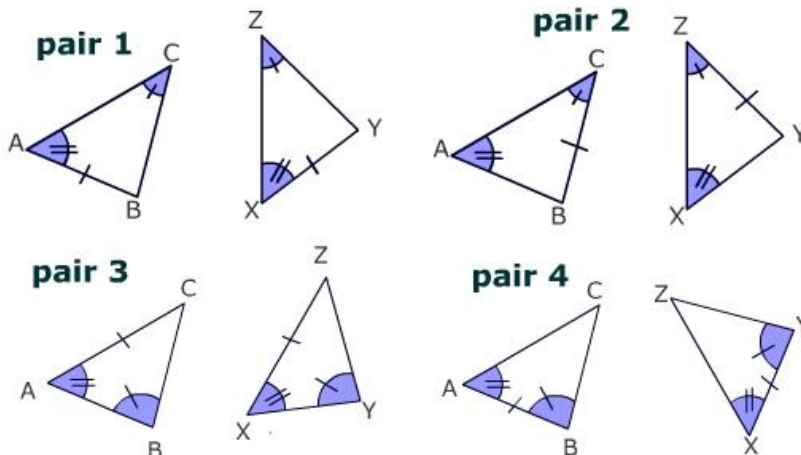


Below is another partially drawn triangle. In this case, AB has been drawn and two angles have been created. If you extend two sides from  $\angle a$  and  $\angle b$ , how many different triangles can you create?

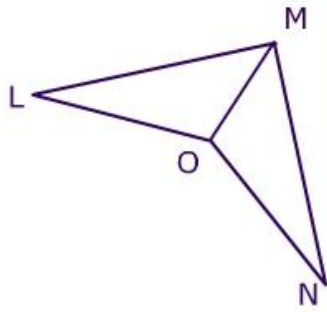


**Identify Angle Side Angle Relationships**

Which pair of triangles on the illustrates an angle side angle relationship?



**Model Problem #1**

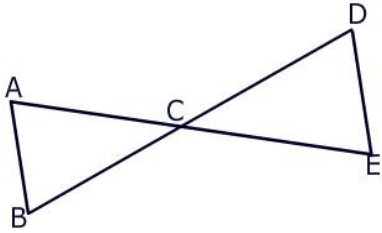


Given

$\overline{OM}$  bisects  $\angle LMN$   
 $\angle LOM = \angle NOM$

**Prove:**  $\triangle LMO \cong \triangle NMO$

**Model Problem #2**



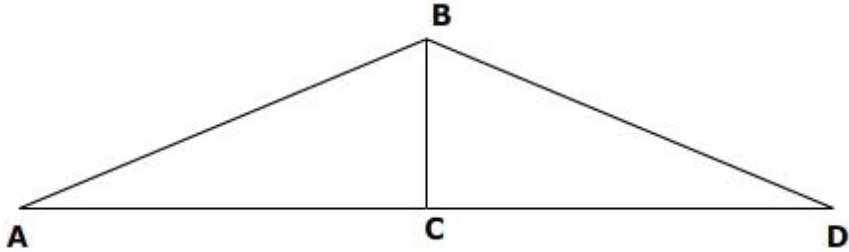
Given  
 $\angle BAC = \angle DEC$   
 $\overline{BD}$  bisects  $\overline{AE}$

**Prove:**  $\triangle ACB \cong \triangle DCE$

**Proof A**

**Given:** BC is an altitude to AD ,  $\angle ABC \cong \angle DBC$

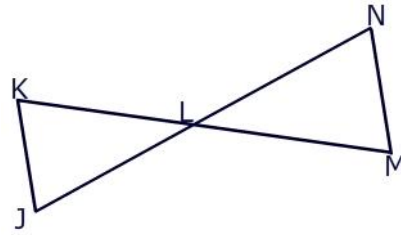
**Prove**  $\triangle BCA \cong \triangle BCD$



**Proof B**

**Given:**  $KM$  bisects  $JN$ ,  $\angle K \cong \angle M$

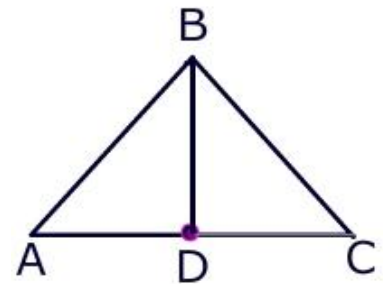
**Prove**  $\triangle JLK \cong \triangle LNM$



**Proof C**

**Given:**  $BD$  is a perpendicular bisector of  $AC$ ,

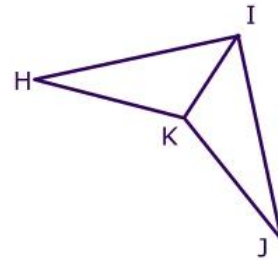
**Prove**  $\triangle ABD \cong \triangle CBD$



**Proof D**

1) IK is a bisector of obtuse angle  $\angle HKJ$ ,  $HK \cong KJ$

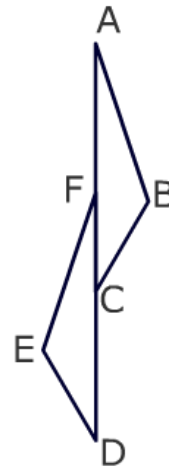
**Prove**  $\triangle HIK \cong \triangle JIK$



**Proof E**

**Given:**  $AF \cong CD$ ,  $AB \cong EF$ ,  $BC \cong ED$

**Prove** the two triangles are congruent.



© [www.mathwarehouse.com](http://www.mathwarehouse.com)

All Rights Reserved  
Commercial Use Prohibited

**TEACHERS:** Feel free to make copies of this worksheet for the sole purpose of use in your own classroom. ENJOY!!! Redistribution in any other form is prohibited.

More Math worksheets and activities available at  
[www.mathwarehouse.com/classroom/worksheets-and-activities.php](http://www.mathwarehouse.com/classroom/worksheets-and-activities.php)

Play Math Games at [TheMathGames.com](http://TheMathGames.com)