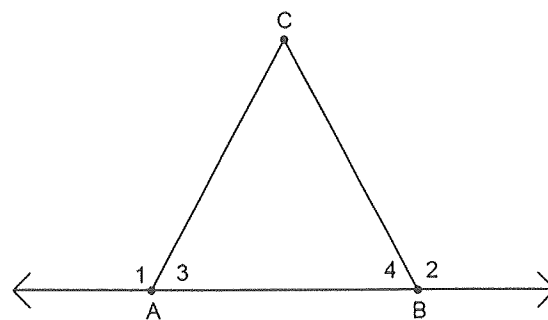


Name: \_\_\_\_\_

# Geometry Proofs Worksheet A

1. Given:  $\angle 3 \cong \angle 4$

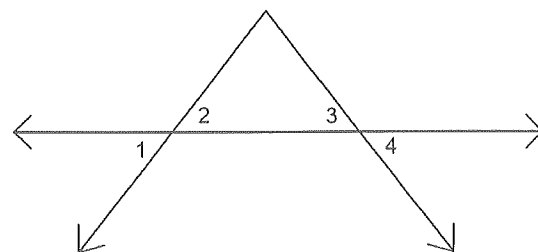
Prove:  $\angle 1 \cong \angle 2$



1. _____	1. _____
2. $\angle 1 + \angle 3 = 180$ $\angle 4 + \angle 2 = 180$	2. _____
3. $\angle 1 + \angle 3 = \angle 4 + \angle 2$	3. _____
4. $\angle 1 + \angle 3 = \angle 3 + \angle 2$	4. _____
5. _____	5. _____

2. Given:  $\angle 1 \cong \angle 4$

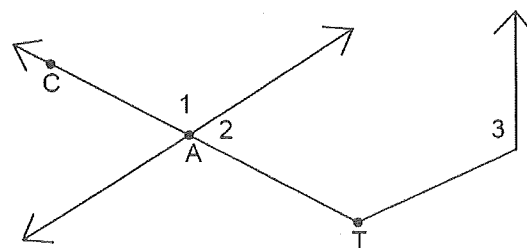
Prove:  $\angle 2 \cong \angle 3$



1. _____	1. _____
2. $\angle 1 \cong \angle 2$ $\angle 4 \cong \angle 3$	2. _____
3. _____	3. _____

3. Given:  $\angle 1 \cong \angle 3$

Prove:  $\angle 2$  is supplementary to  $\angle 3$

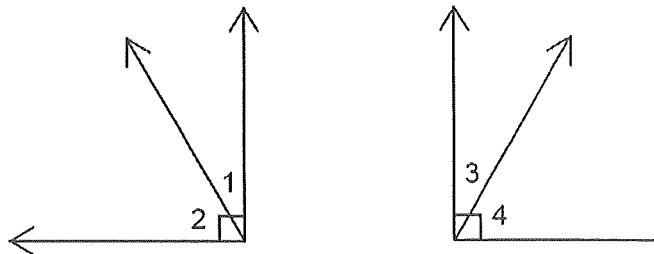


1. _____	1. _____
2. $\angle 1 + \angle 2 = 180$	2. _____
3. $\angle \_\_\_\_\_\_ + \angle 2 = 180$	3. _____
4. _____	4. _____

Given:  $\angle 1 \cong \angle 3$

4.

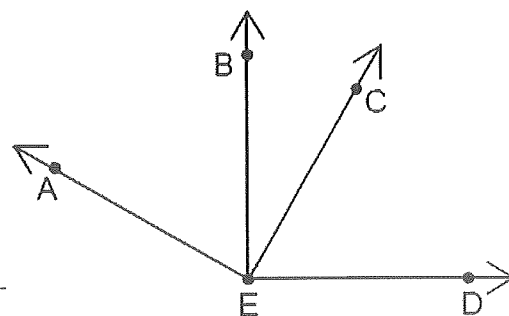
Prove:  $\angle 2 \cong \angle 4$



1. _____	1. _____
2. $\angle 1 + \angle 2 = 90$ $\angle 3 + \angle 4 = 90$	2. _____
3. $\angle 1 + \angle 2 = \angle 3 + \angle 4$	3. _____
4. $\angle 1 + \angle 2 = \angle 1 + \angle 4$	4. _____
5. _____	5. _____

5. Given:  $\angle AEC$  is a right angle  
 $\angle BED$  is a right angle

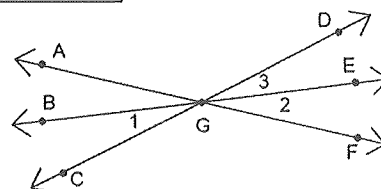
Prove:  $\angle AEB \cong \angle DEC$



1. _____	1. _____
2. $\angle AEC = 90$ $\angle BED = 90$	2. _____
3. $\angle AEC = \angle AEB + \angle BEC$ $\angle BED = \angle DEC + \angle BEC$	3. _____
4. $\angle AEC = \angle BED$	4. _____
5. $\angle AEB + \angle BEC = \angle DEC + \angle BEC$	5. _____
6. _____	6. _____

6. Given:  $\overrightarrow{GE}$  bisects  $\angle DGF$

Prove:  $\angle 1 \cong \angle 2$



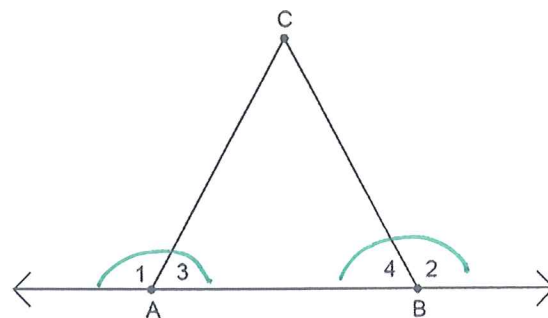
1. _____	1. _____
2. $\angle 2 \cong \angle 3$	2. _____
3. $\angle 1 \cong \angle 3$	3. _____
4. _____	4. _____

Name: key

Geometry Proofs Worksheet A

1. Given:  $\angle 3 \cong \angle 4$

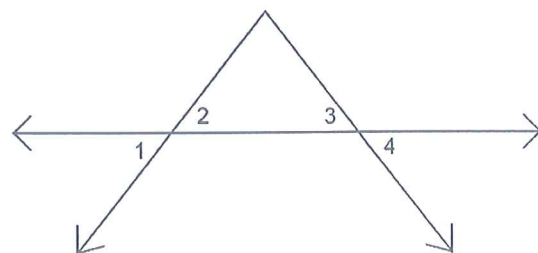
Prove:  $\angle 1 \cong \angle 2$



1. $\angle 3 \cong \angle 4$	1. Given
2. $\angle 1 + \angle 3 = 180$ $\angle 4 + \angle 2 = 180$	2. linear pairs are suppl.
3. $\angle 1 + \angle 3 = \angle 4 + \angle 2$	3. Substitution
4. $\angle 1 + \angle 3 = \angle 3 + \angle 2$	4. Substitution
5. $\angle 1 \cong \angle 2$	5. Subtraction

2. Given:  $\angle 1 \cong \angle 4$

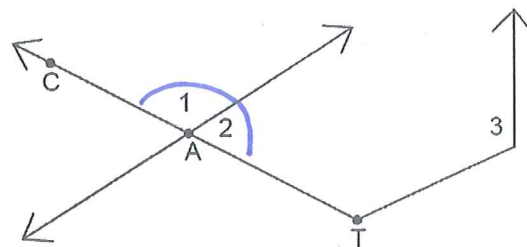
Prove:  $\angle 2 \cong \angle 3$



1. $\angle 1 \cong \angle 4$	1. Given
2. $\angle 1 \cong \angle 2$ $\angle 4 \cong \angle 3$	2. Vertical $\angle$ s are $\cong$
3. $\angle 2 \cong \angle 3$	3. Substitution

3. Given:  $\angle 1 \cong \angle 3$

Prove:  $\angle 2$  is supplementary to  $\angle 3$

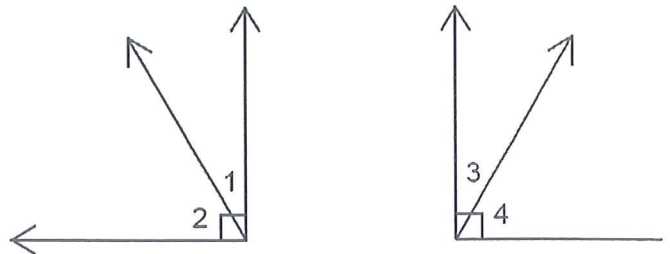


1. $\angle 1 \cong \angle 3$	1. given
2. $\angle 1 + \angle 2 = 180$	2. linear pairs are suppl.
3. $\angle 3 + \angle 2 = 180$	3. substitution
4. $\angle 2$ is suppl. to $\angle 3$	4. def of suppl.

Given:  $\angle 1 \cong \angle 3$

4.

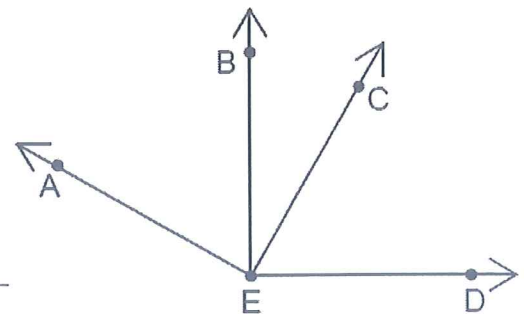
Prove:  $\angle 2 \cong \angle 4$



1. $\angle 1 \cong \angle 3$	1. Given
2. $\angle 1 + \angle 2 = 90$ $\angle 3 + \angle 4 = 90$ (plugin)	2. def of compl.
3. $\angle 1 + \angle 2 = \angle 3 + \angle 4$	3. Substitution
4. $\angle 1 + \angle 2 = \angle 1 + \angle 4$	4. substitution
5. $\angle 2 \cong \angle 4$	5. Subtraction

5. Given:  $\angle AEC$  is a right angle  
 $\angle BED$  is a right angle

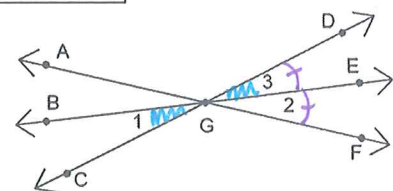
Prove:  $\angle AEB \cong \angle DEC$



1. $\angle AEC$ is RT $\angle$ and $\angle BED$ is Right $\angle$	1. given
2. $\angle AEC = 90$ $\angle BED = 90$	2. def of RT $\angle$
3. $\angle AEC = \angle AEB + \angle BEC$ $\angle BED = \angle DEC + \angle BEC$	3. angle addition
4. $\angle AEC = \angle BED$ (90)	4. Substitution
5. $\angle AEB + \angle BEC = \angle DEC + \angle BEC$	5. substitution
6. $\angle AEB \cong \angle DEC$	6. Subtraction

6. Given:  $\overrightarrow{GE}$  bisects  $\angle DGF$

Prove:  $\angle 1 \cong \angle 2$



1. $\overrightarrow{GE}$ bisects $\angle DGF$	1. Given
2. $\angle 2 \cong \angle 3$	2. def of bisect
3. $\angle 1 \cong \angle 3$	3. vertical $\angle$ s are $\cong$
4. $\angle 1 \cong \angle 2$	4. Substitution