

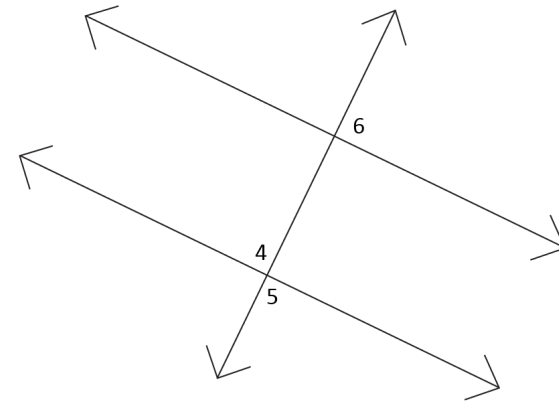
CLOSING ARGUMENTS TASK CARDS (TEACHER GUIDE)

Given: $\angle 4 \cong \angle 6$

Prove: $\angle 5 \cong \angle 6$

Statement:	Reason:
1. $\angle 4 \cong \angle 6$	1. Given
2. $\angle 5 \cong \angle 4$	2. Vertical Angles Theorem
3. $\angle 5 \cong \angle 6$	3. Transitive Property

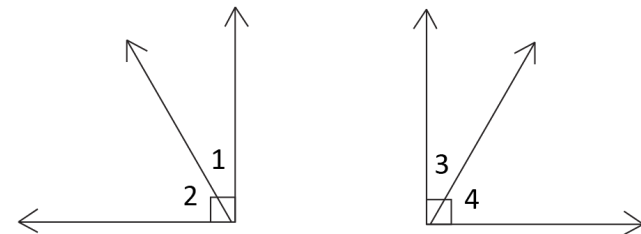
**A paragraph proof has the same information as a two-column proof, but the statements and reasons are phrased in complete sentences.*



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

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

Statement:	Reason:
1. $\angle 1 \cong \angle 3$	1. Given
2. $m\angle 1 + m\angle 2 = 90^\circ$	2. Definition of Right Angles
3. $m\angle 3 + m\angle 4 = 90^\circ$	3. Definition of Right Angles
4. $m\angle 1 + m\angle 2 = m\angle 3 + m\angle 4$	4. Transitive Property
5. $\angle 2 = \angle 4$	5. Subtraction Property
6. $\angle 2 \cong \angle 4$	6. Definition of Congruent Angles

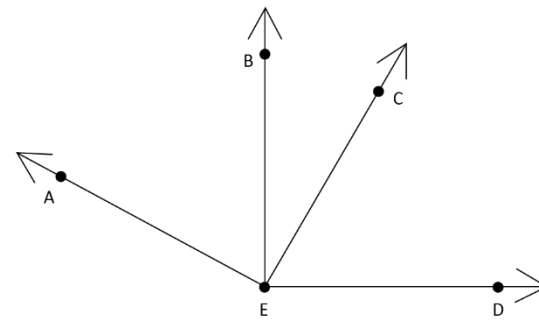


Given: $\angle AEC$ is a right angle

$\angle BED$ is a right angle

Prove: $\angle AEB \cong \angle CED$

Statement:	Reason:
1. $\angle AEC$ is a right angle	1. Given
2. $\angle BED$ is a right angle	2. Given
3. $m\angle AEB + m\angle BEC = m\angle AEC$	3. Angle Addition Postulate
4. $m\angle AEB + m\angle BEC = 90^\circ$	4. Definition of Right Angles
5. $m\angle BEC + m\angle CED = \angle BED$	5. Angle Addition Postulate
6. $m\angle BEC + m\angle CED = 90^\circ$	6. Definition of Right Angles
7. $m\angle AEB + m\angle BEC = m\angle BEC + m\angle CED$	7. Transitive Property
8. $m\angle AEB = m\angle CED$	8. Subtraction Property
9. $\angle AEB \cong \angle CED$	9. Definition of Congruent Angles

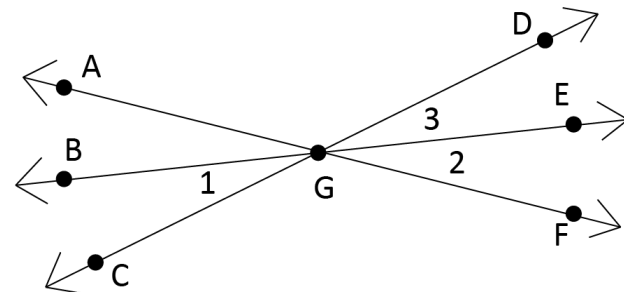


Given: $\overrightarrow{GE}$ bisects $\angle DGF$

$\overline{AF}$ intersects $\overline{BE}$ and $\overline{CD}$

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

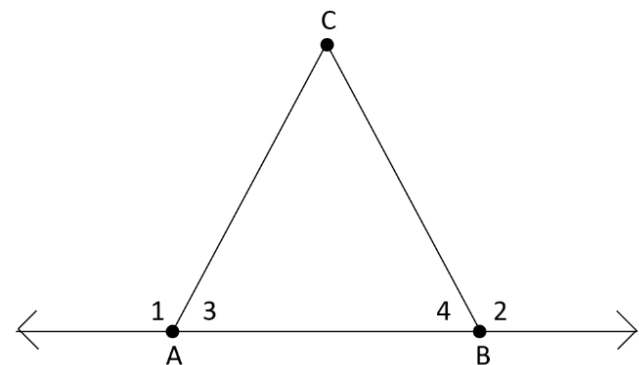
Statement:	Reason:
1. $\overrightarrow{GE}$ bisects $\angle DGF$	1. Given
2. $m\angle 3 = m\angle 2$	2. Definition of Angle Bisector
3. $m\angle 3 = m\angle 1$	3. Vertical Angles Theorem
4. $m\angle 1 = m\angle 2$	4. Transitive Property
5. $\angle 1 \cong \angle 2$	5. Definition of Congruent Angles



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

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

Statement:	Reason:
1. $\angle 3 \cong \angle 4$	1. Given
2. $\angle 1$ and $\angle 3$ make a linear pair	2. Given
3. $\angle 4$ and $\angle 2$ make a linear pair	3. Given
4. $m\angle 1 + m\angle 3 = 180^\circ$	4. Definition of Linear Pair
5. $m\angle 4 + m\angle 2 = 180^\circ$	5. Definition of Linear Pair

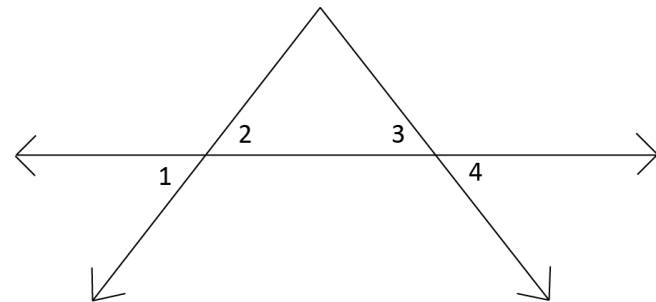


6. $m\angle 1 + m\angle 3 = m\angle 4 + m\angle 2$	6. Transitive Property
7. $m\angle 1 + m\angle 3 = m\angle 3 + m\angle 2$	7. Substitution Property
8. $m\angle 1 = m\angle 2$	8. Subtraction Property
9. $\angle 1 \cong \angle 2$	9. Definition of Congruent Angles

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

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

Statement:	Reason:
1. $\angle 1 \cong \angle 4$	1. Given
2. $\angle 1$ and $\angle 2$ are vertical angles	2. Given
3. $\angle 3$ and $\angle 4$ are vertical angles	3. Given
4. $m\angle 2 = m\angle 1$	4. Vertical Angles Theorem
5. $m\angle 4 = m\angle 3$	5. Vertical Angles Theorem
6. $m\angle 2 = m\angle 3$	6. Transitive Property
7. $\angle 2 \cong \angle 3$	7. Definition of Congruent Angles



Given: $3x - 6 = x + 12$

Prove: $x = 9$

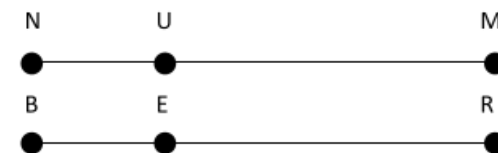
Statement:	Reason:
1. $3x - 6 = x + 12$	1. Given
2. $3x = x + 12 + 6$	2. Addition Property
3. $3x - x = 18$	3. Subtraction Property
4. $2x = 18$	4. Subtraction Property
5. $x = 9$	5. Division Property

Given: $\overline{NM} \cong \overline{BR}$

$\overline{NU} \cong \overline{BE}$

Prove: $\overline{UM} \cong \overline{ER}$

Statement:	Reason:
1. $\overline{NM} \cong \overline{BR}$	1. Given
2. $\overline{NU} \cong \overline{BE}$	2. Given
3. $\overline{NU} + \overline{UM} = \overline{NM}$	3. Segment Addition Postulate
4. $\overline{BE} + \overline{ER} = \overline{BR}$	4. Segment Addition Postulate



5. $\overline{BE} + \overline{UM} = \overline{NM}$	5. Substitution Property	
6. $\overline{BE} + \overline{UM} = \overline{NU} + \overline{UM}$	6. Substitution Property	
7. $\overline{UM} \cong \overline{ER}$	7. Subtraction Property	