

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

Date: \_\_\_\_\_  
Band: \_\_\_\_\_

### Unit 2: Reasoning and Proof

**LT#1:** Use inductive reasoning to make conjectures.

1. What is the next number in the sequence?  
8, -3, 5, -6, 2, -9

**LT#2:** Recognize conditional statements and their parts.

2. Use the following conditional for A-C.  
If an animal has wings, then the animal can fly.
  - A. What is the hypothesis of the conditional?
  - B. What is the conclusion of the conditional?
  - C. What is a counterexample for the conditional?

**LT#3:** Write converses, inverses, and contrapositives of conditionals.

3. Write the converse, inverse, and contrapositive of the following conditional.  
If an animal is a mammal, then it has fur.

**LT#4:** Write biconditionals and recognize good definitions.

4. Why is the following statement not a good definition?  
A linear pair is two angles whose measures sum to 180.

**LT#5:** Use the Law of Detachment and the Law of Syllogism.

5. If Laurel turns off her alarm, then she sleeps too late. If Laurel sleeps too late, then she misses her bus. Laurel catches the bus. What can you conclude?

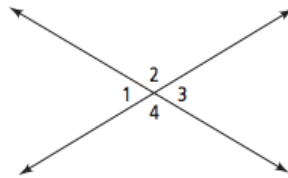
**LT#6:** Connect reasoning in algebra and geometry.

6. What property does the following conditional statement illustrate?  
If  $\angle A \cong \angle B$  and  $\angle B \cong \angle C$ , then  $\angle A \cong \angle C$ .

7. Write a statement that illustrates the Reflexive Property of Congruence.

**LT#7:** Prove and apply theorems about angles.

8. Use the diagram for A-B.



- A. What reason justifies the following statement?  
Angle 1 is congruent to angle 3.

- B. What reason justifies the following statement?  
Angle 1 is supplementary to angle 2.