**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour: \_\_\_\_\_**

**Individual Practice:**

 **Conjectures and Counterexamples**

**Fill in the blank:**

1. To prove a conjecture false, we must show at least one \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**State whether each conjecture is *true* or *false*. If it is false, give a counter example.**

2. The product of an odd integer and an even integer is odd.

3. The perfect squares alternate between odd and even numbers.

Determine whether each conjecture is *true* or *false*. Give a counter example for any **false** conjecture. *You MUST draw a picture for your counter example.*

4. **Given**: Points A, B, and C are collinear.

 **Conjecture**: $AB+BC=AC$

5. **Given**: <R and <S are supplementary and the same <R and <T are supplementary.

 **Conjecture**: <T and <S are congruent.

6. **Given**: $\overbar{DE}⊥\overbar{EF}$

 **Conjecture**: <DEF is a right angle.

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour: \_\_\_\_\_**

**Checkpoint:**

 **Conjectures and Counterexamples**

1. **Given**: $\overbar{DE}⊥\overbar{EF}$

**Conjecture**: <DEF is a linear pair.

2. **Given**: <1 + <2 + <3 = 180

**Conjecture**: <1, <2 and <3 are interior angles of a triangle.

3. **Given**: <1 + <2 = 180

**Conjecture**: <1 and <2 are linear pairs

4. **Given**: <1 and <2 are complementary

**Conjecture**: adjacent angles <1 and <2 form a right angle