Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ www.danielselements.weebly.com

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| **Key Concepts** | **Notes** |
| Theorem |  |
| Deductive reasoning |  |
| Vertical Angles Theorem | Vertical angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.∠1 ≅ ∠3 and ∠2 ≅ ∠4 |
| PROOF |  |
| Using the Vertical Angles Theorem | What is the value of x? |
| Proof Using the Vertical Angles Theorem |  |
| Congruent Supplements Theorem | It two angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the same angle (or of congruent angles), then the two angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. |
| Congruent Complements Theorem | It two angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the same angle (or of congruent angles), then the two angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. |
| Theorem | If two angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then each is a \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. |

**APPLICATION**

1. What are the measures of ∠1, ∠2, and ∠3? 2. What is the value of x?

3. Complete the following proof by filling in the blanks.

**COMPREHENSION**

4. Your friend knows that ∠1 and ∠2 are complementary and that ∠1 and ∠3 are complementary. He concludes that ∠2 and ∠3 must be complementary. What is the error in his reasoning?