**Proving Angle Relationships**

Practice: Use the following diagram for all of the proofs on this page.



Proof #1

|  |  |
| --- | --- |
| **Statement** | **Reason** |
| 1. BD bisects ∠ABC | 1. Given |
| 2.  | 2.  |

Proof #2

|  |  |
| --- | --- |
| **Statement** | **Reason** |
| 1. ∠1 and ∠2 are complementary | 1. Given |
| 2.  | 2.  |

Proof #3

|  |  |
| --- | --- |
| **Statement** | **Reason** |
| 1. ∠3 is a right angle | 1. Given |
| 2.  | 2.  |

Extension: Use the following diagram for all of the proofs on this page.



4

Proof #4

|  |  |
| --- | --- |
| **Statement** | **Reason** |
| 1. ∠4 and ∠3 form a linear pair | 1. Given |
| 2. ∠4 and ∠3 are supplementary | 2.  |
| 3. | 3. |

Proof #5

|  |  |
| --- | --- |
| **Statement** | **Reason** |
| 1. m∠1 + m∠2 = 80° | 1. Given |
| 2. m∠2 = 60° | 2. Given |
| 3. | 3. Substitution |
| 4. m∠1 = 20° | 4.  |