| **Word** | **Definition & Meaning** |
| --- | --- |
| Proof |  |
| Justify |  |
| Geometric proof |  |
| Types of proofs |  |

# Reasons

| **Definition** | **Properties** |
| --- | --- |
| * Definition of Angle Bisector * Definition of Complementary Angles * Definition of Congruent Angles * Definition of Congruent Segments * Definition of Linear Pair * Definition of Midpoint * Definition of Right Angles * Definition of Segment Bisector * Definition of Supplementary Angles * Definition of Vertical Angles | * Addition Property of Equality * Distributive Property * Division Property of Equality * Multiplication Property of Equality * Reflexive Property * Substitution Property of Equality * Subtraction Property of Equality * Symmetric Property * Transitive Property |
| **Postulates** | **Theorems** |
| * Angle Addition Postulate * Linear Pair Postulate * Segment Addition Postulate | * Alternate Exterior Angles Theorem * Alternate Interior Angles Theorem * Angle Bisector Theorem * Consecutive Interior Angles Theorem * Corresponding Angles Theorem * Midpoint Theorem * Vertical Angles Theorem |

# Algebraic Proof

|  | **Given:** 2*x* + 5 = 20 – 3*x* | **Statement** | **Reason** |
| --- | --- | --- | --- |
|  | **Prove:** *x* = 3 | 1. 2*x* + 5 = 20 – 3*x* | 1. |
|  |  | 2. | 2. |
|  |  | 3. | 3. |
|  |  | 4. *x* = 3 | 4. |

# Creating a Proof

**Paragraph Proof**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  | **Given:** *AC* = *AB* + *AB* |  |
| --- | --- | --- |
|  | **Prove:** *AB* = *BC* |  |
|  |  |  |
| **Statement** | | **Reason** |
| 1. | | 1. |
| 2. | | 2. |
| 3. | | 3. |
| 4. | | 4. |
|  | |  |

# Completing a Proof

|  | **Given:** *m*∠*KMN* = 28° | **Statement** | **Reason** |
| --- | --- | --- | --- |
|  | **Prove:** *m*∠*JMN* = 90° | 1. | 1. |
|  |  | 2. ∠*JMK* and ∠*KMN* are complementary angles | 2. Given |
|  | 3. ∠*JMK* + ∠*KMN* = ∠*JMN* | 3. |
|  | 4. ∠*JMK* + ∠*KMN* = 90° | 4. Definition of Complementary Angles |
|  |  | 5. | 5. |