| **Word** | **Definition/Meaning** |
| --- | --- |
| **Proof** | Logical Argument that shows a statement is true |
| **Justify** | Layout your mathematical thought process step by step |
| **Geometric Proof** | Given Geometry based statements that prove a mathematical concept is true |
| **Types of Proofs** | Two-Column and Paragraph |

**Reasons: (Copied from slide 18. Students will have additional reasons on their paper)**

| **Definitions** | **Properties** |
| --- | --- |
| * Definition of Angle Bisector * Definition of Complementary Angles * Definition of Congruent Angles * Definition of Congruent Segment * 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 * Corresponding Angles Theorem * Midpoint Theorem * Vertical Angles Theorem |

Table

Description automatically generated



Diagram

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Sample explanation for completing the proof:

In math, we usually complete the proof more than creating the proof because it provides more guidance to you guys and helps train you to take the direct route to answer a problem and not waste your time providing too much information.

To start our proof there are 3 lines we can add that requires no thought on your part. (Statement 1 & 4, Reason 1) Copy the Given and Prove into your statements and the first reason will always be Given.

At this point, you only have to come up with 2 reasons and you’re done! Let’s look at the statements and give them a reason just as we did with Elle’s argument.

Statement 2: angle + angle = a larger angle. You should notice that this is like line 2 of the last proof except it is naming angles instead of segments. This is the angle addition postulate.

Looking at statement 2 and 3 you will notice that JMK + KMN added together equal 90 degrees but added together they also equal JMN. Since the left side of both of those equations are the same, I can use the Transitive Property to take out the repeated parts and set the right side of each equation equal to each other.