**Lesson Plan – Day 22**

**Lecture**

Explain the concept of a “two-column proof” to students. A proof is a logical layout that includes statements & reasons.

Then, give students the hand-out entitled, “9 Important Geometry Theorems”.

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| **Name of Theorem** | **What does it mean?** |
| Reflexive Property | A side or angle is exactly the same as itself. |
| Transitive Property | If A = B and B = C, then A = C. |
| Substitution Property | If A = 4, then anywhere A can be replaced with 4. |
| Algebra Property | You can perform any operation to BOTH sides of an equation! |
| Vertical Angles Theorem | If two angles are vertical angles, their measures are congruent. |
| Complementary Angles Theorem | Two angles are complementary if their sum is 90 degrees. |
| Supplementary Angles Theorem | Two angles are supplementary if their sum is 180 degrees. |
| Triangle Sum Theorem | If it’s a triangle, the sum of the interior angles is 180 degrees. |
| Definition of Midpoint/Bisector | Splits a segment or angle into two congruent pieces. |

**Assignment # 22**

**(Two-Column Proofs)**

**1. Fill in the missing information:**



2. Read This Proof. Explain in words what the proof-writer is talking about. Your explanation should answer the questions:

1) What is the reflexive property?

2) Why did the proof writer need to use it?

3) What does “addition property of equality” mean in normal terms?



**3. Fill in the missing information:**



**4. Match these conditional statements with their property of equality:**

If JK = PQ and PQ = ST, then JK = ST. A. Addition property

If m<S = 30°, then 5° + m<S = 35°. B. Substitution property

If ST = 2 and SU = ST + 3, then SU = 5. C. Transitive property

If m<K = 45°, then 3(m<K) = 135°. D. Symmetric property

If m<P = m<Q, then m<Q = m<P. E. Multiplication property

**5. Prove that m<ABC = 2 (m<DBA)**

**Given that m<DBC = m<DBA**

