**Part 1**

Using the techniques discussed in class. Prove each problem by using some or all of the cards mentioned in the problem. Complete a two-column proof for each exercise, with statements and reasons in the columns. A reason is needed for each statement. The final statement will be the item being proved.

**Example**:

**Given**: Yellow 4

In your hand you have Red 4, Blue Draw 2, Blue Skip, Green Skip and Green 4.

**Prove:** Blue Draw 2

|  |  |
| --- | --- |
| **Statement** | **Reason** |
| Yellow 4 | Given |
| Green 4 | Same Number |
| Green Skip  | Same Color |
| Blue Skip | Same Symbol |
| Blue Draw 2 | Same Color |

All cards could have been played with an additional step by starting the proof with the Red 4.

1. **Given**: Green Draw 2

In your hand you have Yellow 8, Blue 6, Red Skip and Green Skip.

**Prove:** Red 4

|  |  |
| --- | --- |
| **Statement**  | **Reason** |
| Green Draw 2  | Given |
| Green Skip | Same Color |
| Red Skip | Same Symbol |
| Red 4 | Same Color |

1. **Given**: Red Draw 2

In your hand you have Red 8, Yellow 9, Green 9, Green 6, Blue 8, Blue Draw 2 and Red 4

**Prove**: Yellow 4

|  |  |
| --- | --- |
| **Statement**  | **Reason** |
| Red Draw 2 | Given |
| Red 8 | Same Color |
| Red 4  | Same Color |
| Yellow 4 | Same Number |

3) **Given:** Blue 6

 You have in your hand Green Reverse, Blue Reverse and a Wild Card.

 **Prove:** Red 7

|  |  |
| --- | --- |
| **Statement**  | **Reason** |
| Blue 6 | Given  |
| Blue Reverse  | Same Color |
| Green Reverse | Same Symbol |
| Wild Card  | Change Color |
| Red 7 | Same Color |

4) **Given:** Yellow Draw 2

 In your hand you have Green 6, Red 6, Red Reverse, Red Draw 2 and Yellow 6.

 **Prove:** Green 7

|  |  |
| --- | --- |
| **Statement**  | **Reason** |
| Yellow Draw 2 | Given |
| Red Draw 2 |  Same Symbol |
| Red 6 | Same Color |
| Green 6 | Same Number |
| Green 7 | Same Color |

**Part 2**

**Given:** T = 30

 VUS = 135

**Prove:** S = 105

|  |  |
| --- | --- |
| **Statement** | **Reason** |
| **m<**T = 30 | Given |
| m<VUS = 135 | Given |
| m<TUS = 45 | Supplementary angles |
| **m<**T +m<TUS + m<S = 180 | Sum of the measures of the angles of a triangle is 180. |
| 30 + 45 + m<S = 180 | Substitution |
| m<S = 105 | Addition Property of Equality (Subtract 75° from each side) |