

Proofs with Uno

 [MathTeacherCoach.com](https://www.mathteachercoach.com)



Proofs are written in Two-Column Form

- Deductive reasoning is used to prove a statement is correct.
- Step by step ideas must be laid out with *postulates* or proven *theorems* to prove a statement.

Postulates and Theorems

- *Postulates* are big ideas that are accepted as universal truths without proof.
- *Theorems* are ideas that can be proven using deductive logic (through syllogisms).

Format of Two-Column Proofs:

- Write the Given information Given, and what is to be proved.
- Construct a T.
- Statements that are true are placed in the first column.
- Reasons why the statement is true is placed in the second column.

Writing Uno Proofs

- The *postulates are the rules of Uno*.
- The first card is the **Given**.
- Syllogistic logic is used to list the order in which cards are played to finally play the card to be **Proved**.
- The logic is justified in 2-column format.



3 *Postulates* of Uno!

1. Play the same **color card**.
2. Play the same **number card**.
3. Play a WILD card to **change color**.

Sample

- Begin with



- List how to play these cards to



- 'Prove'



T-Chart

Card played	Reason
1. Blue 6	1. Given
2. Blue Skip	2. Same Color
3. Wild Draw 4	3. Change Color
4. Yellow 5	4. Same Color
5. Yellow 1	5. Same Color
6. Yellow Reverse	6. Same Color

Given



Not every postulate has to be used.



Same Symbol



Change Color



Same Color



Same Color



Same Color

T-Chart

Given: Red R



Prove: Red 9



Card played

Reason

1. Red Reverse

2. Yellow Reverse

3. Wild Draw 4

4. Blue 9

5. Red 9

1. Given

2. Same Symbol

3. Change **Color**

4. Same Color

5. Same Number

No need to use Blue

Given:



Prove:



Using:



T-Chart

Given: Yellow 1



Prove: Red 2



Statements

Reasons

-
1. Yellow 1
 2. Yellow 0
 3. Red 0
 4. Red 2

1. Given
2. Same Color
3. Same Number
4. Same Color

Given:



Prove:



Using:



T-Chart

Given: Blue Seven



Prove: Red Nine



Statements :

Reasons:

-
- | | |
|-----------------|-----------------|
| 1. Blue 2 | 1. Given |
| 2. Blue Draw 2 | 2. Same Color |
| 3. Green Draw 2 | 3. Same Symbol |
| 4. Wild Card | 4. Change Color |
| 5. Blue 1 | 5. Same Color |
| 6. Red 1 | 6. Same Number |

Given:



Prove:



Using:



T-Chart

Given: Red 1  Prove: Green 3



Statements

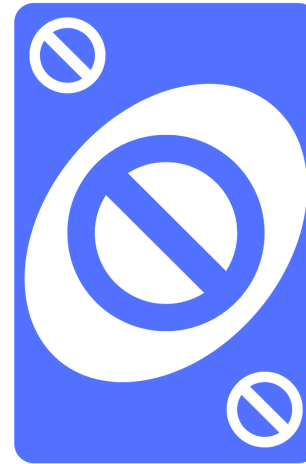
Reasons

-
- | | |
|---------------|-----------------|
| 1. Red 1 | 1. Given |
| 2. Red Draw 2 | 2. Same Color |
| 3. Red Draw 2 | 3. Same Symbol |
| 4. Wild | 4. Change Color |
| 5. Green 7 | 5. Same Color |
| 6. Green 3 | 6. Same Color |

Given:



Prove:



Using:



T-Chart

Given: Green Draw 2



Prove: Blue Skip



Statements *(What Card to Play):*

Reasons *(I can play this card because):*

1. Green Draw 2

2. Green 9

3. Blue 9

4. Blue Skip

1. Given

2. Same Color

3. Same Number

4. Same Color

The Red 9 does not have to be used. (It is ok to do so, but would require an additional step.)

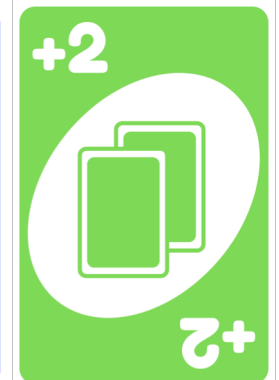
Given:



Prove:



Using:



T-Chart

Given: Blue 9



Prove: Red 2



Statements:

Reasons:

-
- | | |
|-----------------|----------------|
| 1. Blue 9 | 1. Given |
| 2. Blue Draw 2 | 2. Same Color |
| 3. Green Draw 2 | 3. Same Symbol |
| 4. Green 6 | 4. Same Color |
| 5. Red 6 | 5. Same Number |
| 6. Red 2 | 6. Same Color |

Not all of the cards were used.