

Topic: Uno Proofs

What does it mean to prove something?

- To provide or demonstrate sufficient evidence that something is true
 - To win an argument

Why do a proof in Geometry?

- To show our understanding of Geometry topics and how they all connect!

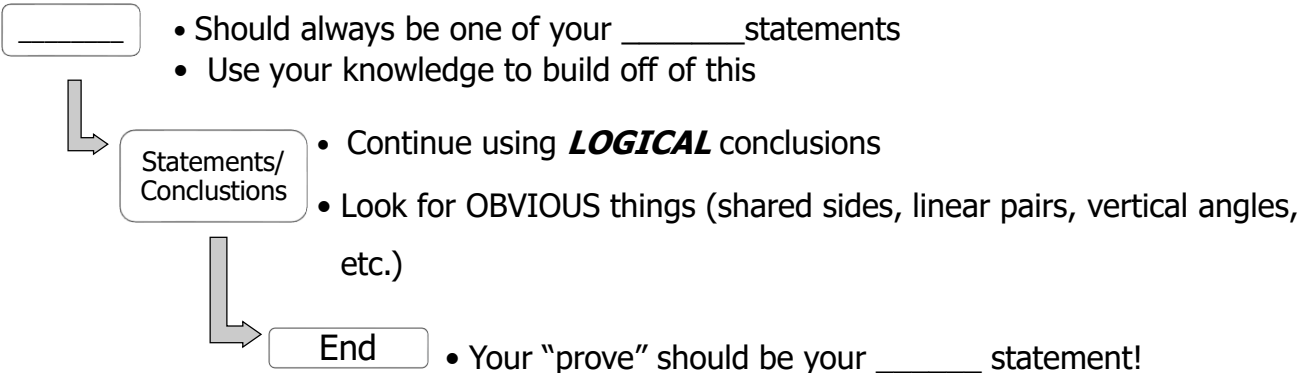
Uno Proofs

What are the 3 rules of Uno?

1. You can play a card of the _____ color
2. You can play a card of the _____ number
3. You can play a WILD card at ANY time in order to change the _____

Two-Column Proof

Statements	Reasons
Progression of our argument laid out STEP by STEP	<i>WHY</i> CAN WE SAY THE STATEMENTS? <i>(These can be postulates, theorems, or reasons)</i>
These statements are things that MUST be true!	<i>Why are the statements TRUE?</i>



Uno Proof Examples


Blue Skip


Yellow 5


Yellow 1



Given: Blue 6 

Statements:
(What card to play)

Prove: Yellow Reverse 

Reasons:
(Why can we play that card?)

Learning Objective(s) _____:

**Main Ideas/
Questions**
Uno Proof
Examples



Green 1 Blue 1

Notes

Given: Blue 5



Prove: Green 6



Statements:
(What card to play)

Reasons:
(Why can we play that card?)

Simple Properties
and Properties of
Equality

Use SIMPLE PROPERTIES AND PROPERTIES OF EQUALITY!

Addition Property of Equality	Subtraction Property of Equality
Multiplication Property of Equality	Division Property of Equality

Symmetric Property

If $a = b$, then $b = a$

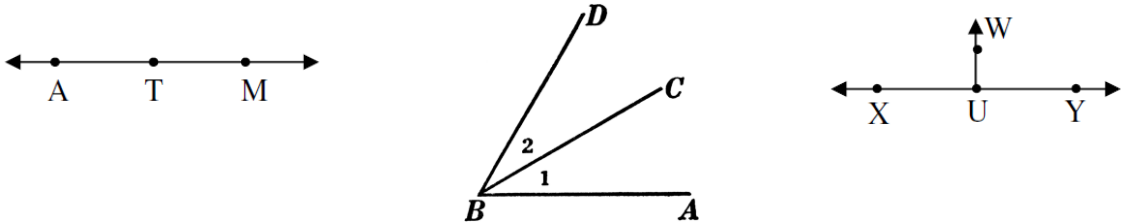
Given: $2x + 3 = 4x - 7$

Prove: $x = 5$

Statements	Reasons
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

Main Ideas/
Questions
Assumptions

Notes
What can we assume about the following diagrams?



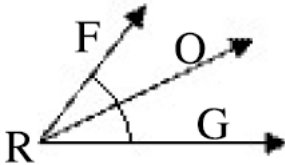
Drawing
Conclusions



Given: M is the midpoint of \overline{AB}

Conclusion:

Why?



Given: RO bisects Angle FRG

Conclusion:

Why?

Given: $\angle DAY$ and $\angle YAK$ are a linear pair

Conclusion:

Why?

Given: $\angle GFH \cong \angle IFH$

Given: $HF = PM$

Prove: $m\angle GFH = m\angle IFH$

Prove: $HF \cong PM$

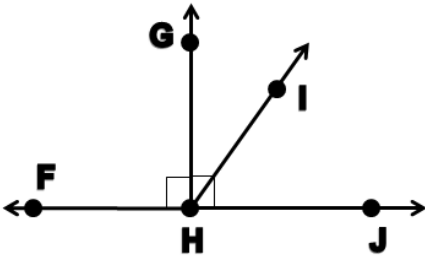
Why?

Main Ideas/
Questions
Examples

Notes

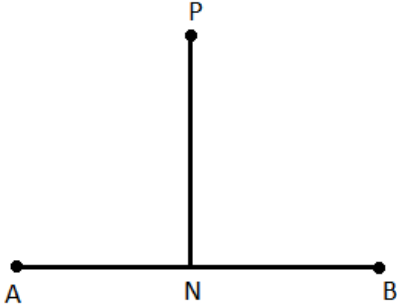
Use **DEFINITIONS!**

Given: $\angle GHF$ is a right angle.
Prove: $m\angle GHF = 90^\circ$



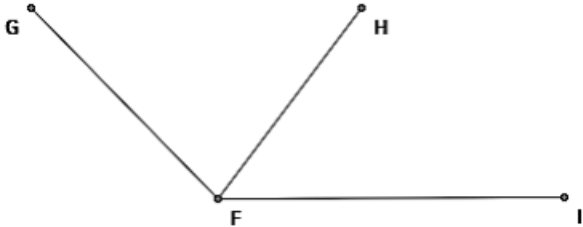
Statements	Reasons
1.	1.
2.	2.

Given: $\overline{PN} \perp \overline{AB}$
Prove: $\angle ANP$ and $\angle BNP$ are right angles.



Statements	Reasons
1.	1.
2.	2.

Given: \overline{HF} bisects $\angle GFI$
Prove: $m\angle GFH = m\angle IFH$

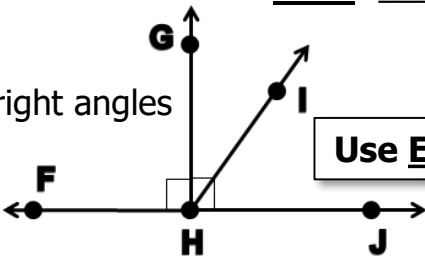


Statements	Reasons
1.	1.
2.	2.
3.	3.

**Main Ideas/
Questions**
 Examples

Notes

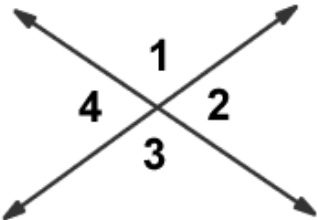
Given: $\angle GHF$ and $\angle GHJ$ are right angles
 Prove: $\angle GHF \cong \angle GHJ$



Use **EXPLANATIONS!**

Statements	Reasons
1.	1.
2.	2.

Given: $\angle 4$ and $\angle 2$ are vertical angles.
 Prove: $\angle 4 \cong \angle 2$



Statements	Reasons
1.	1.
2.	2.

Use **OTHER PROPERTIES/THEOREMS/POSTULATES!**

Substitution Property	Replaces a number or a piece of an expression
Transitive Property	If $a = b$ and $b = c$, then $a = c$
Angle Addition Postulate	Two smaller adjacent angles added together creates a bigger angle

Given: $\angle 4 \cong \angle 2$ and $\angle 2 \cong \angle 5$
 Prove: $\angle 4 \cong \angle 5$

Statements	Reasons
1.	1.
2.	2.
3.	3.