

1. List All possible outcomes for the conclusion
  - a. There are usually 2 outcomes
2. Suppose the motion of one of the desired conclusion is true
3. Write a chain of reasons until you reach an impossibility, this will be a contradiction of either.

EX:

Statements	Reason
1. Either JH is congruent to JK or JH is not congruent to JK	1. Law of excluded middle
2. Suppose $JH = JK$	2. RAA Hypothesis
3. Angle H = Angle K	3. If two sides on one triangle are congruent then their opposite angles are congruent.
4. Angle H is not congruent to Angle K	4. Given
5. It cannot be the case that Angle H = Angle K, and that Angle H is not congruent to angle K	5. Law of contradiction
6. Therefore, our original assumption must be false and it must be the case that JH is not congruent to JK	6. Law of elimination

When do we use indirect proofs?

1. When you have a conclusion or a given that contains "Not"
2. Some super rare situation

Note! Indirect proofs do not replace direct proofs!

Common Mistakes

- Incomplete steps at the beginning and at the end of proofs
- Assume vs. Suppose
- "Supposing" the negation of a given instead of the conclusion
- NOTE PLANNING, know what you are contradicting