

Prove the following using a proof by contradiction:

1. Using our current geometry axioms and theorems prove:

An isosceles triangle does not have 3 unequal angles.

2. Using the axiom: given any two points there is exactly one line that contains them. (Exactly means that there is a line and there is no more than one line. Lines in this axiom means infinitely produced lines)

prove:

Given any two distinct lines, there is at most one point of intersection. (Distinct means that they are not the same lines when considered as infinite lines)

3. Using the axiom: the sum of any two integers is an integer

Prove: there is no greatest even integer.