Name_____ Date_____ Color_____

3.4 Proofs of Corollaries Adv Geometry

I. Third Angles Theorem (Corollary)

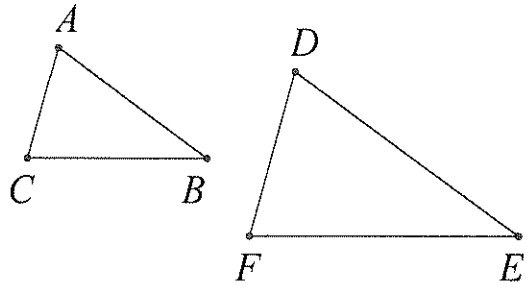
If two angles of one triangle are congruent to two angles of another triangle, then the third angles are congruent.

Given: $\angle A \cong \angle D$

$\angle B \cong \angle E$

Prove: $\angle C \cong \angle F$

Diagram:



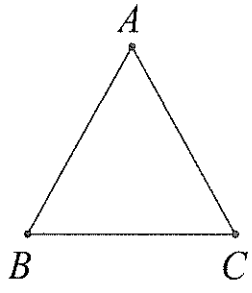
Proof:

II. If a triangle is equiangular, then each angle has a measure of 60°

Given: ΔABC is equiangular

Prove: $m\angle A = m\angle B = m\angle C = 60°$

Diagram:



Proof:

III. In a triangle, there can be at most one right angle or one obtuse angle.

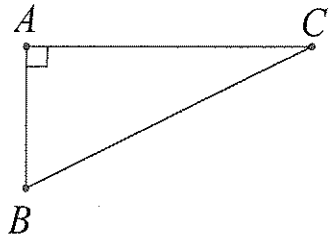
Write a convincing argument why this must be true. You should refer to theorems/corollaries that we have already proven.

Argument:

IV. If a triangle is a right triangle,
then the acute angles are complementary.

Given: ΔABC with right angle, A
Prove: $\angle B$ comp $\angle C$

Diagram:



Proof: