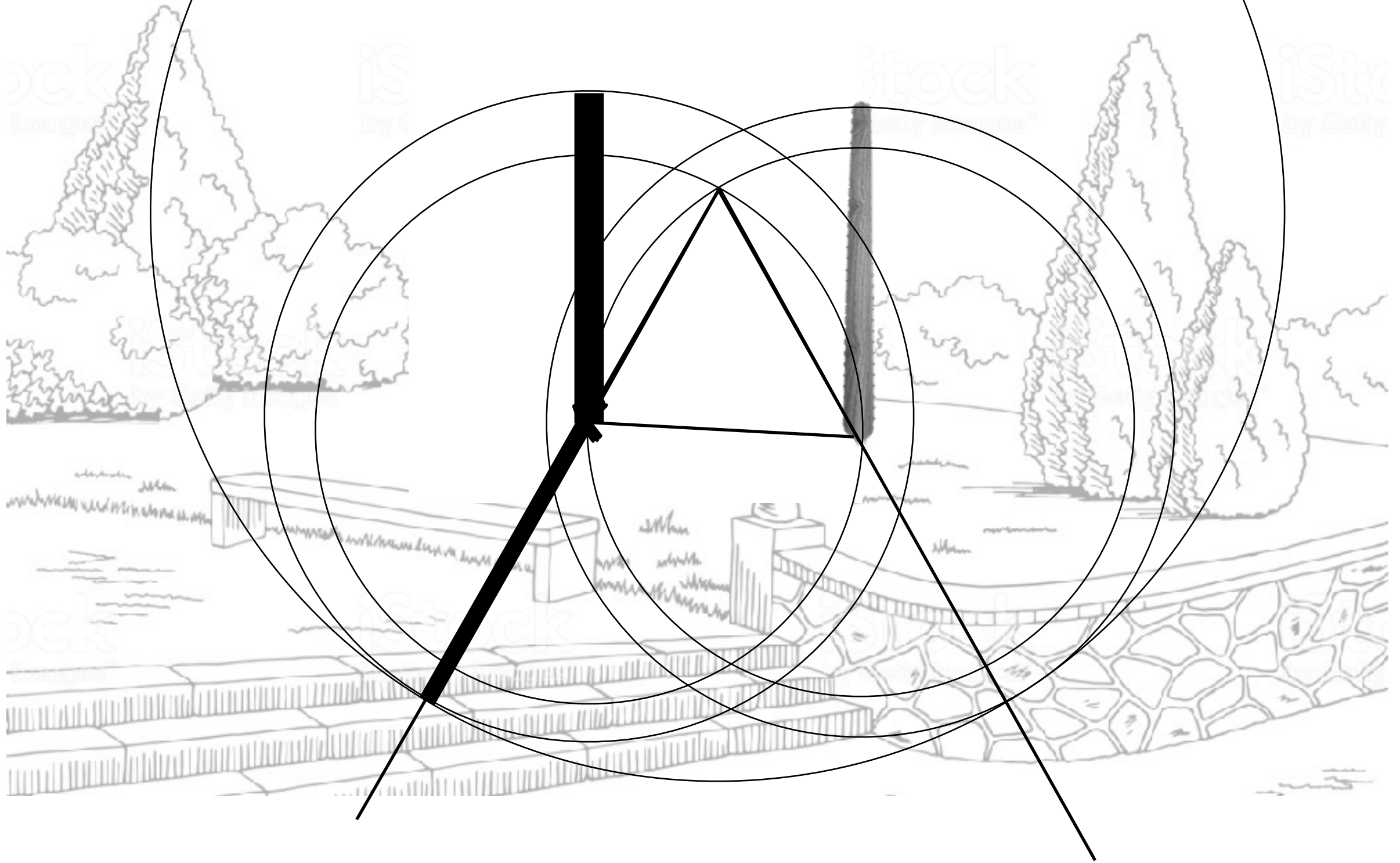


PRAYER

Most blessed Lord, send the grace of Your Holy Spirit on me to strengthen me that I may learn well the subject I am about to study and by it become a better person for Your glory, the comfort of my family, and for the benefit of Your Church and the world.

Amen.

HOMework



VISION

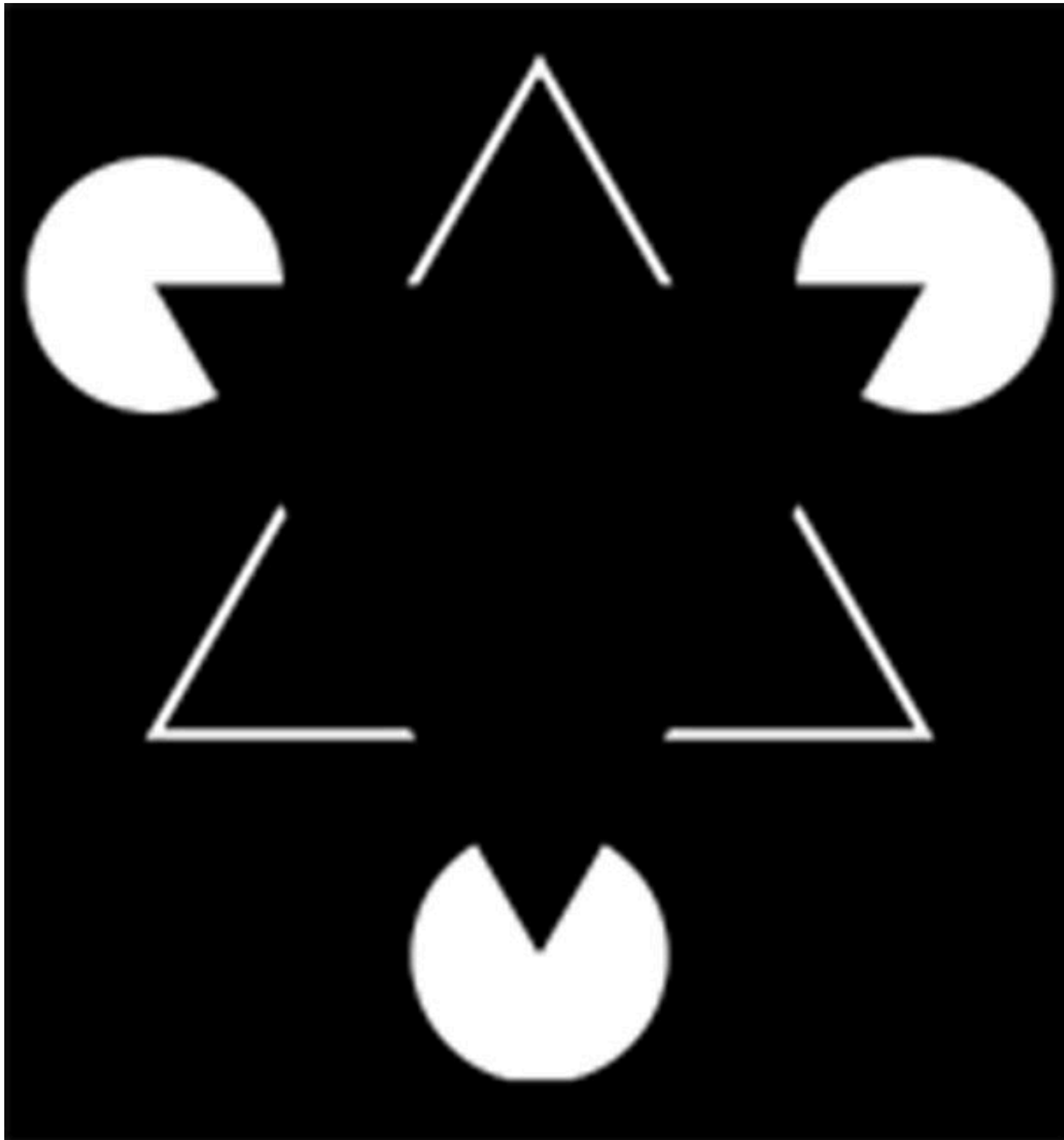
Things aren't always what they appear at first...





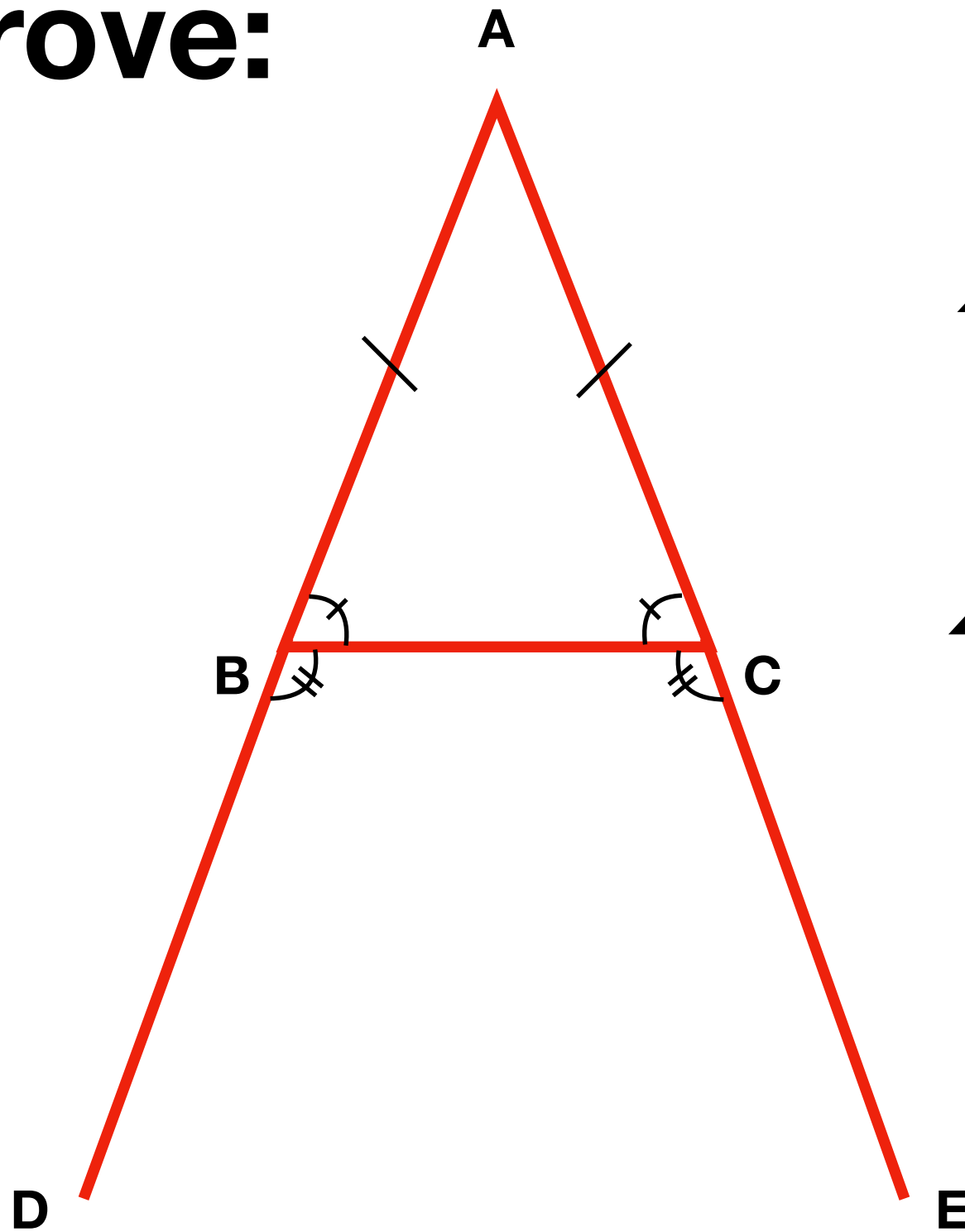






The Kanizsa Triangle was named after the psychologist Gaetano Kanizsa who first described its effect. When you look at the image your brain creates contours (outlines) of a triangle although none exist. In reality it is an illusion created by the the wedges and the angles.

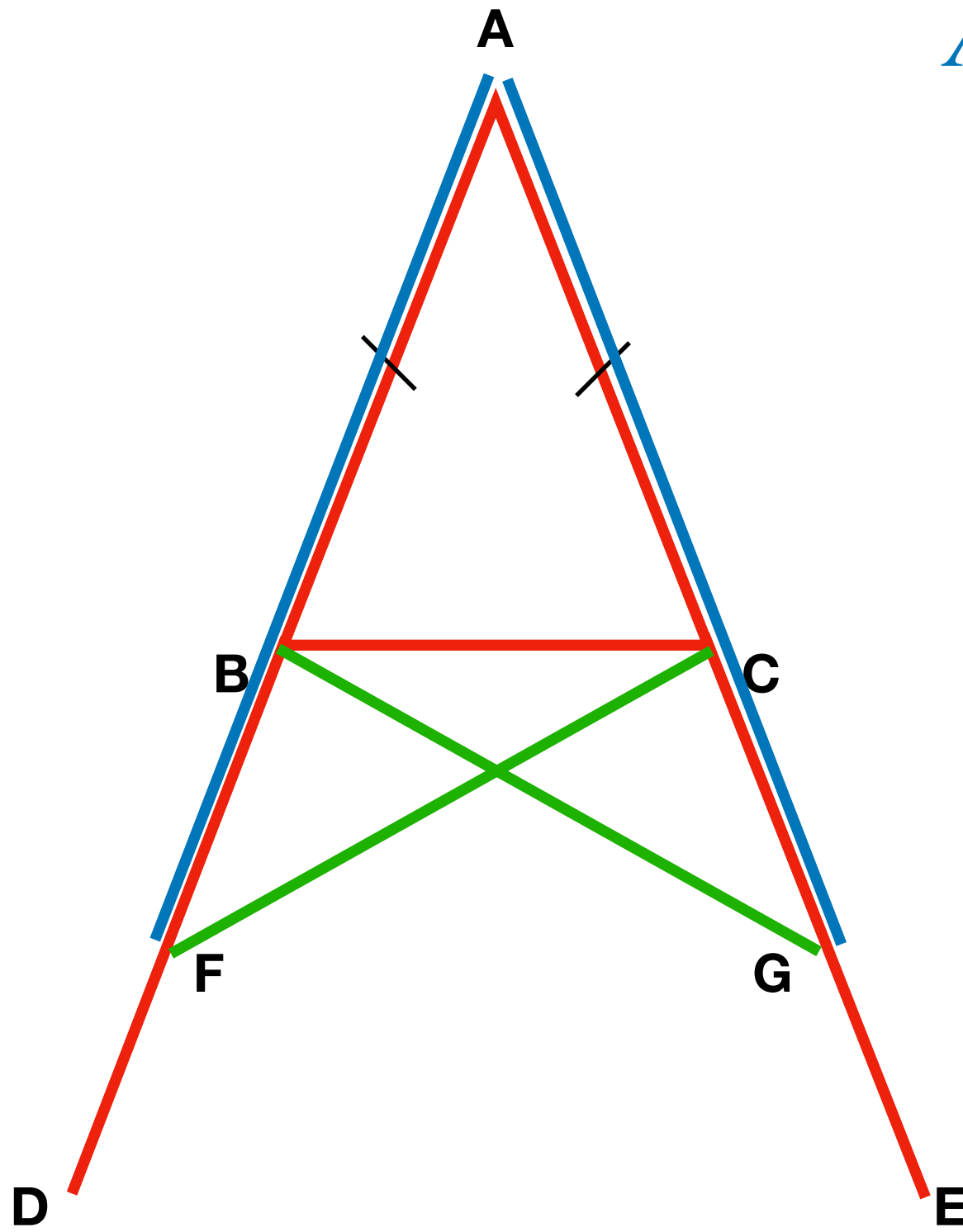
Prove:



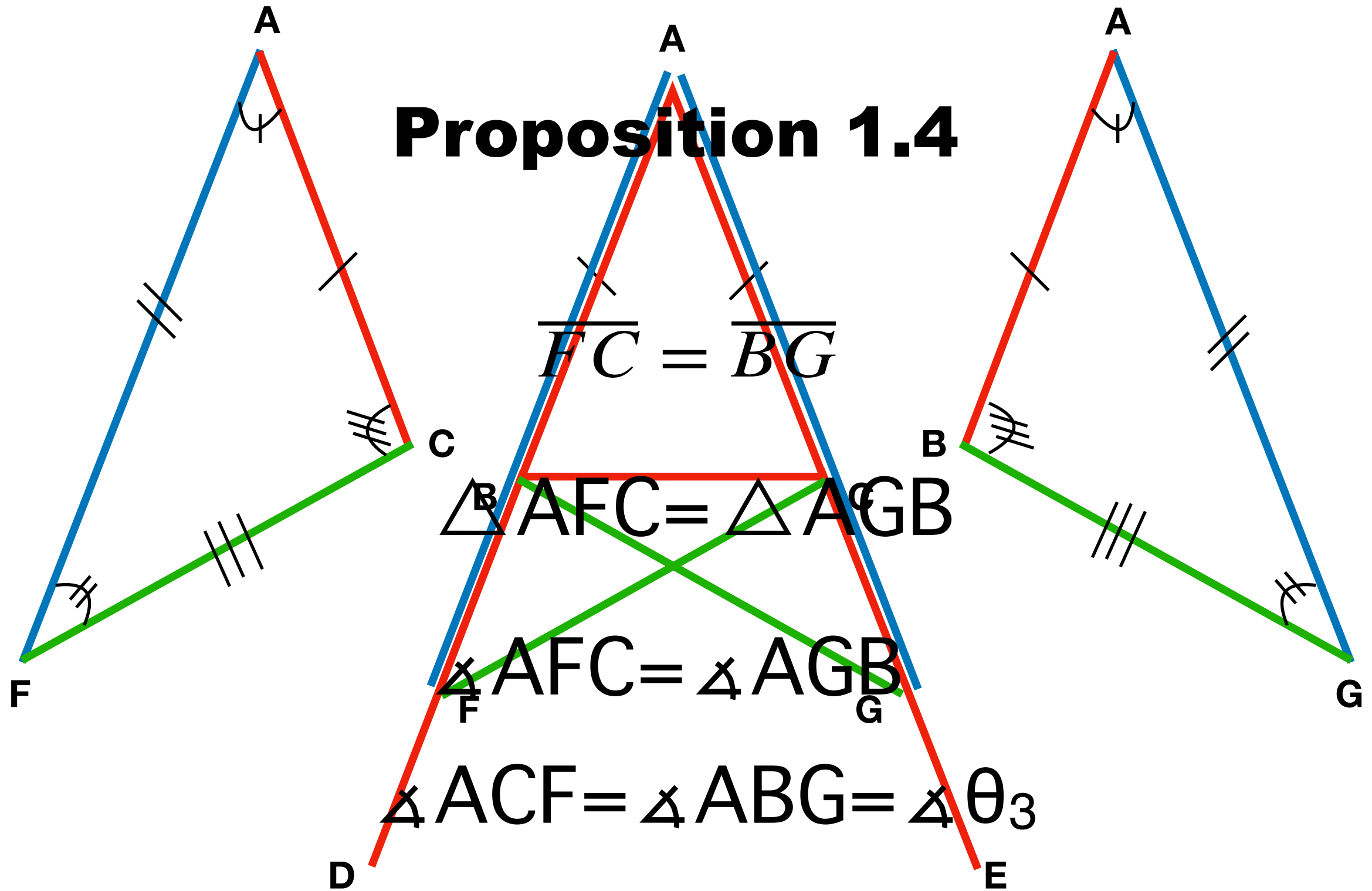
$$\angle ABC = \angle ACB$$

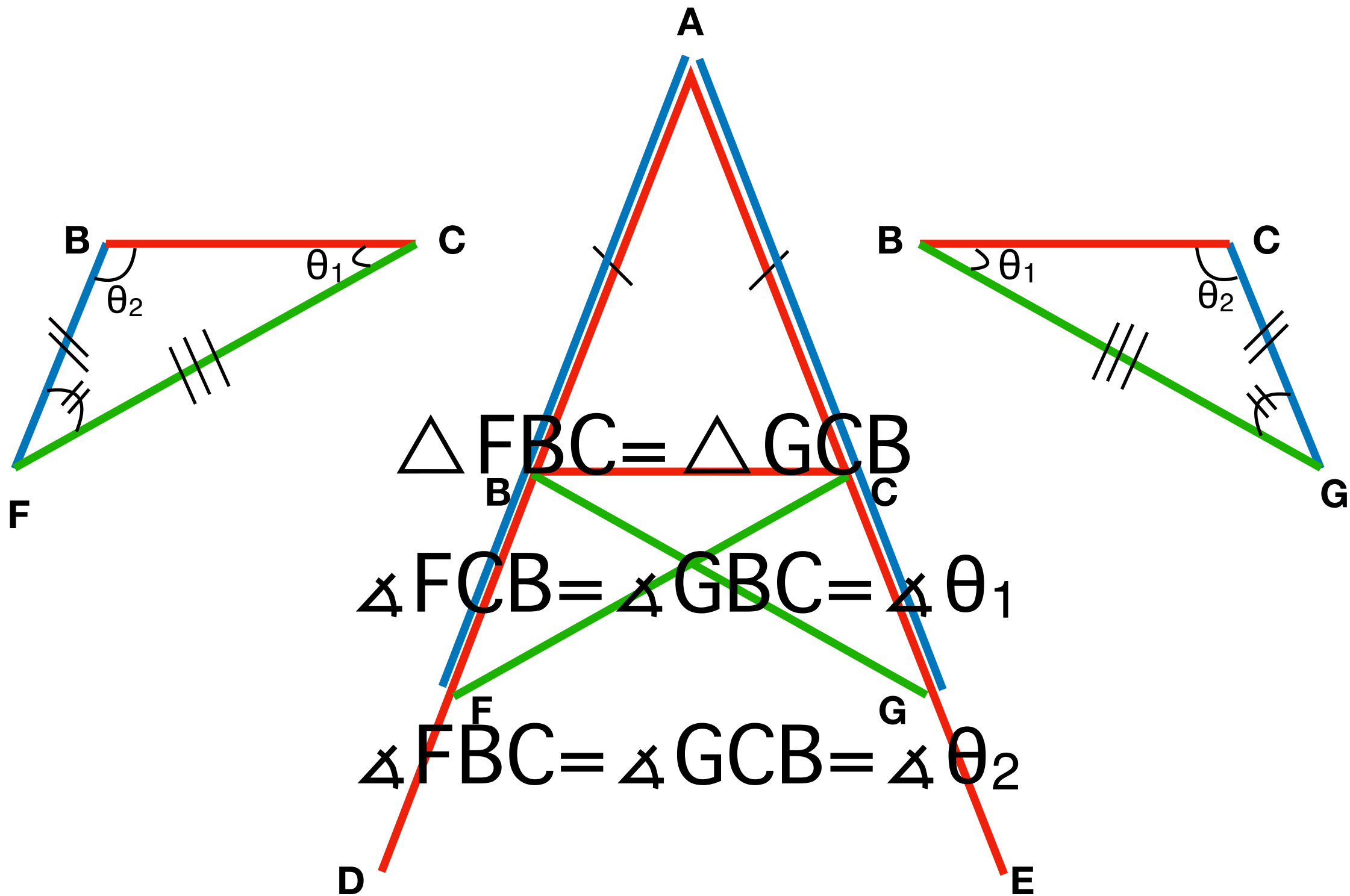
$$\angle DBC = \angle ECB$$

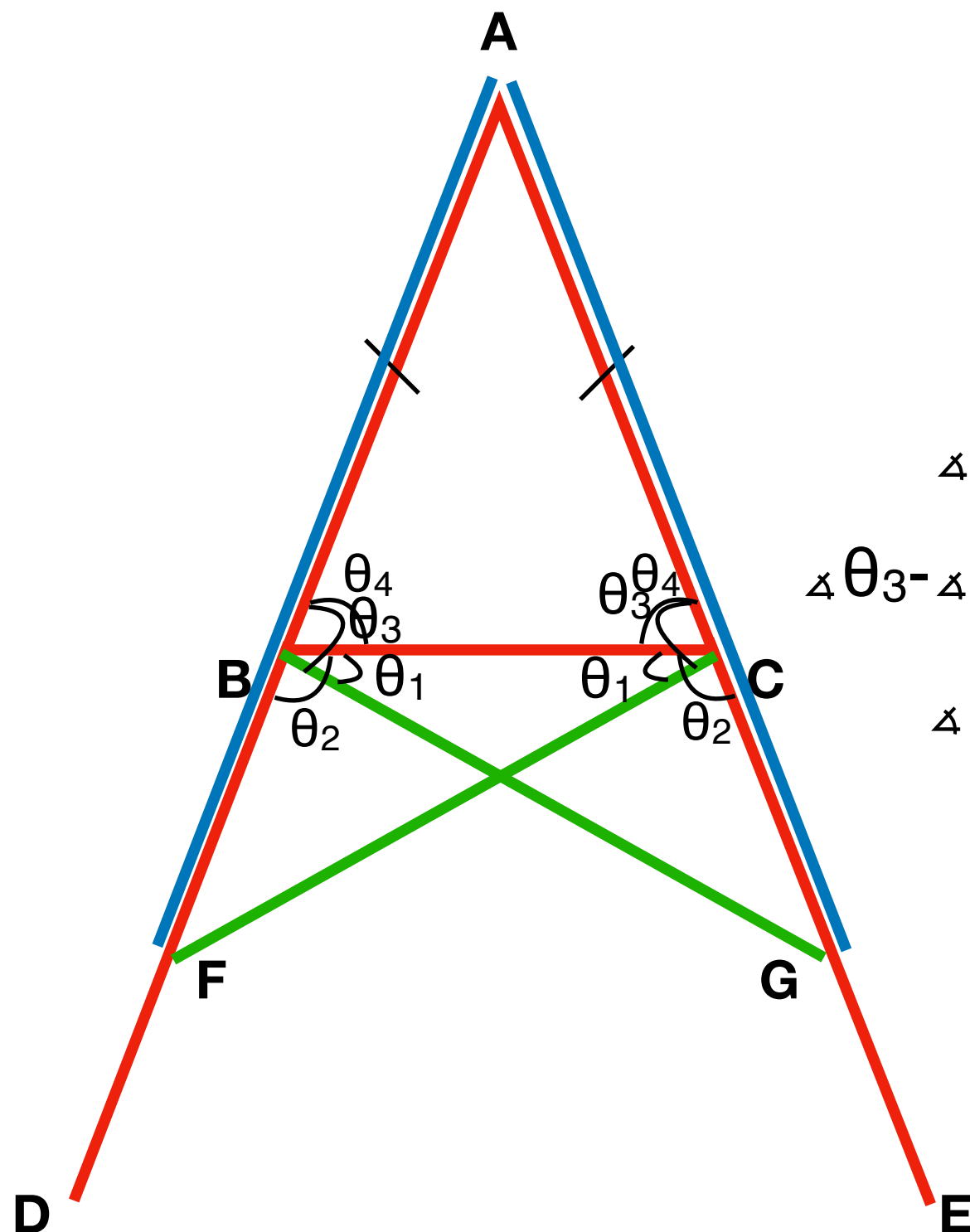
$$\overline{AF} = \overline{AG}$$



Proposition 1.4







$$\angle FCB = \angle GBC = \angle \theta_1$$

$$\angle ACF = \angle ABG = \angle \theta_3$$

$$\angle \theta_3 = \angle \theta_3$$

$$\angle ACF = \angle ABG$$

$$\angle \theta_3 - \angle \theta_1 = \angle \theta_3 - \angle \theta_1 \quad | \quad \angle ACF - \angle FCB = \angle ABG - \angle GBC$$

$$\angle \theta_4 = \angle \theta_4$$

$$\angle ABC = \angle ACB$$

$$\angle ABC = \angle ACB \quad \checkmark$$

$$\angle FBC = \angle GCB = \angle \theta_2$$

$$\angle DBC = \angle ECB \quad \checkmark$$

PROOF BY CONTRADICTION

Logic Puzzles:

- Lisbeth or Ivanna own a tiger.
- The tiger stays in Nairobi.
- Ivanna lives in London.

If Ivanna has the tiger, she lives in Nairobi.

But she doesn't! Which is absurd!!!

Therefore, Lisbeth has a tiger and lives in Nairobi.

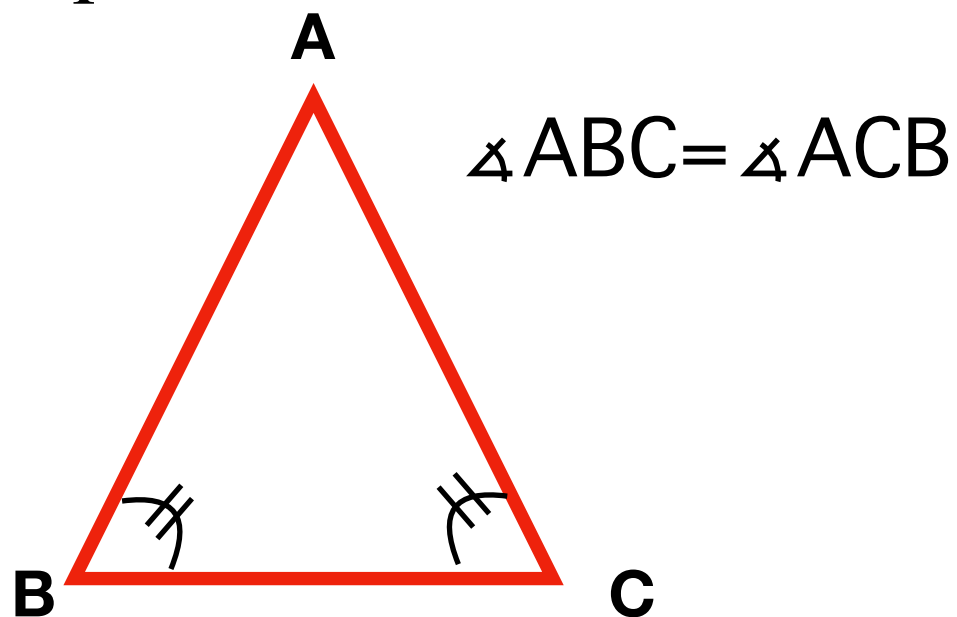
PROPOSITION 1.6

(Theorem)

If two angles of a triangle are equal, the sides opposite the equal angles will also be equal.

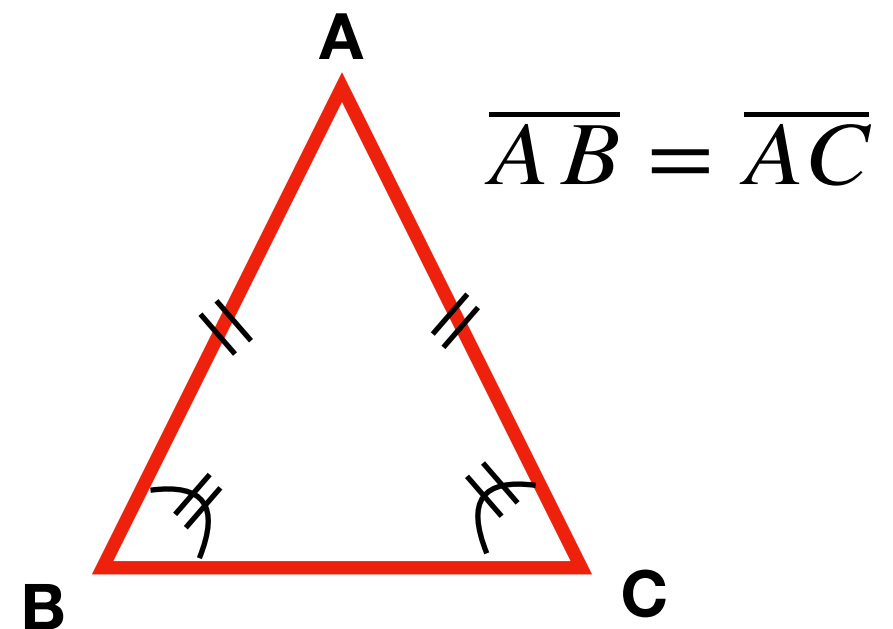
Given:

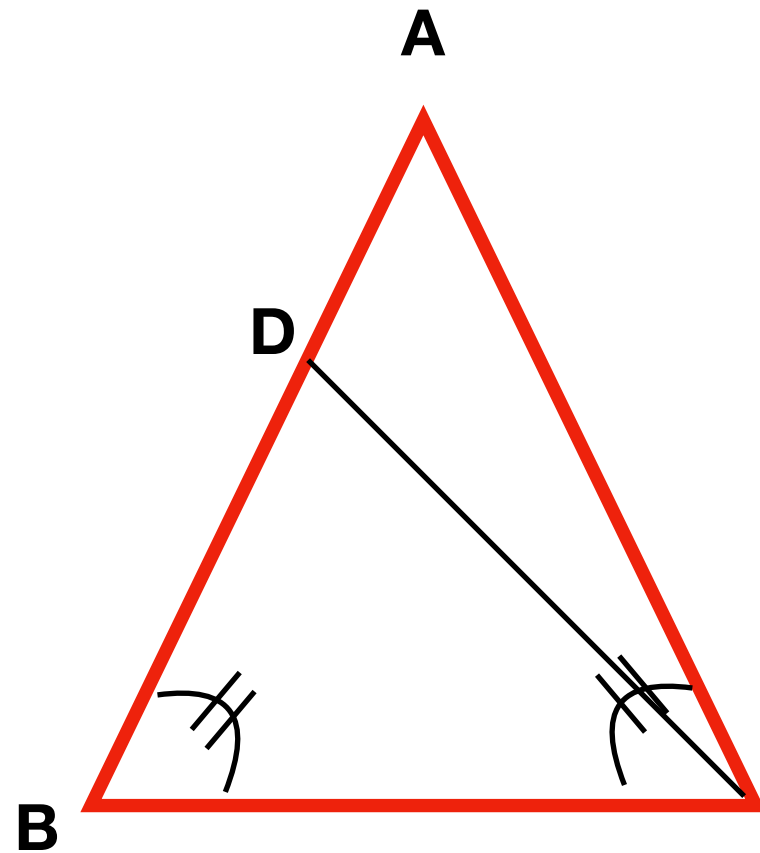
Two angles of a triangle are equal



Prove:

The sides opposite the equal angles are equal





If $\overline{AB} \neq \overline{AC}$

then one must be greater than the other.

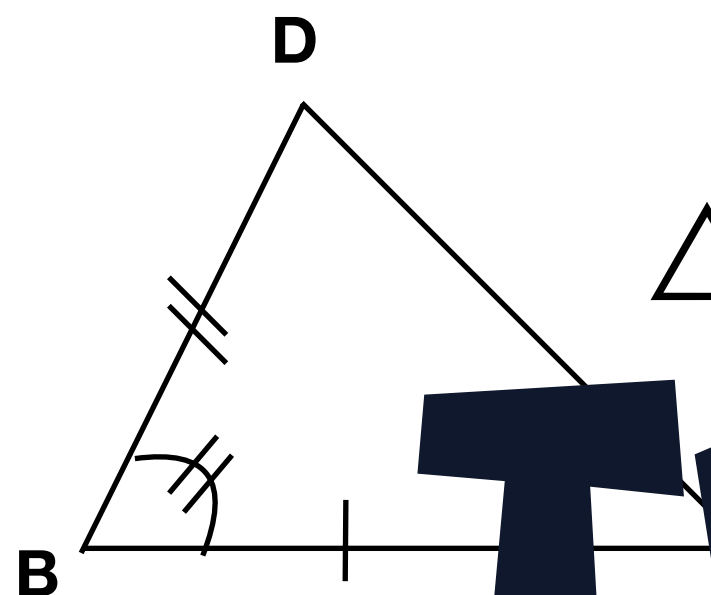
Let \overline{AB} be the greater.

Let point D be on line \overline{AB}

c such that $\overline{BD} = \overline{AC}$

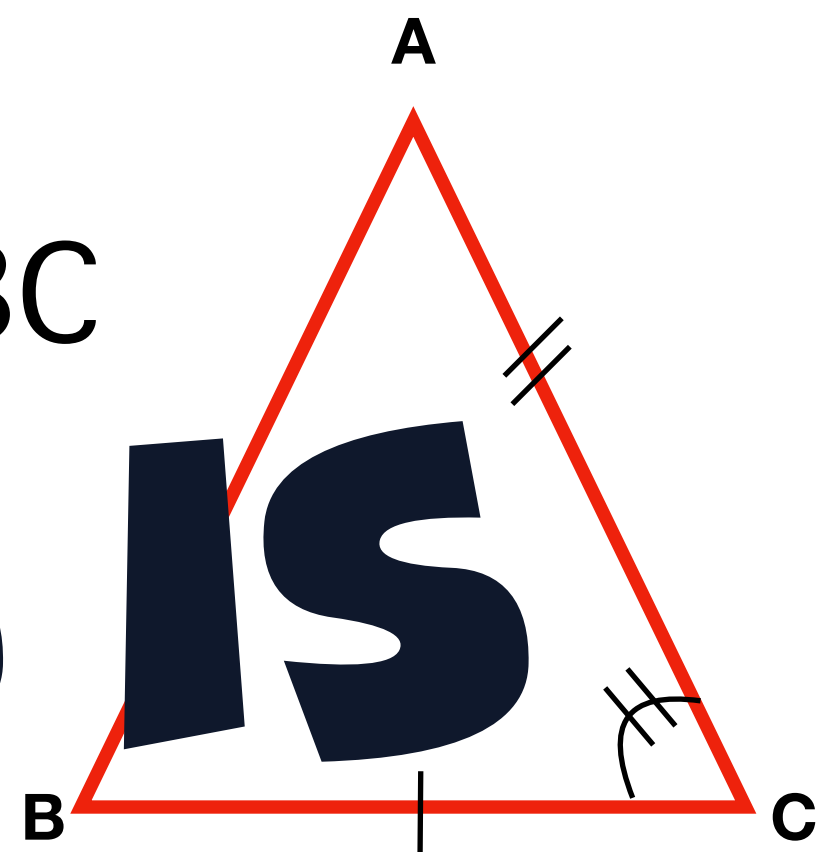
(Proposition 1.3)

Join point D and C to make \overline{DC} (P1)

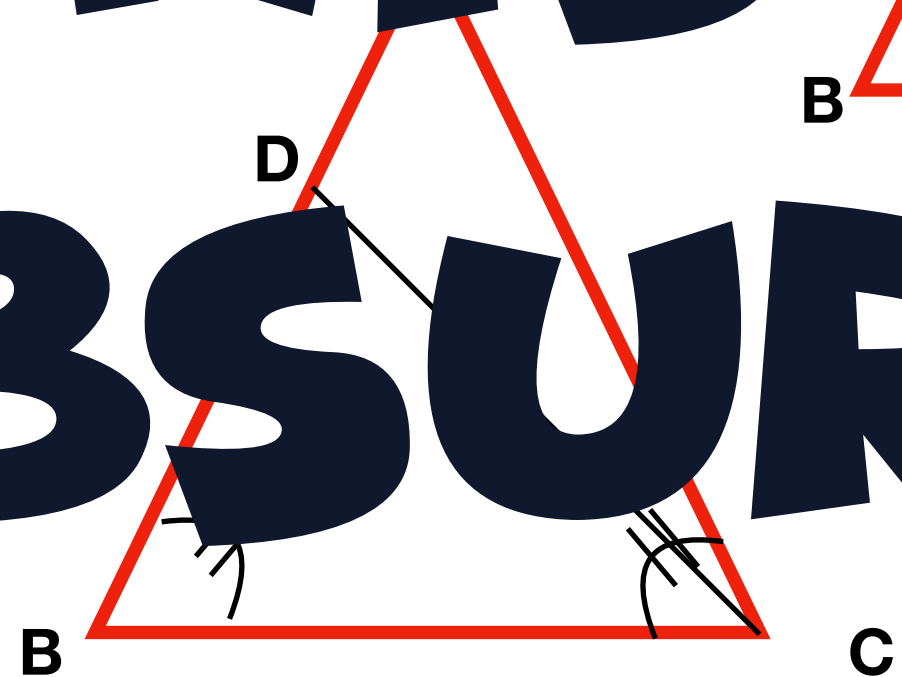


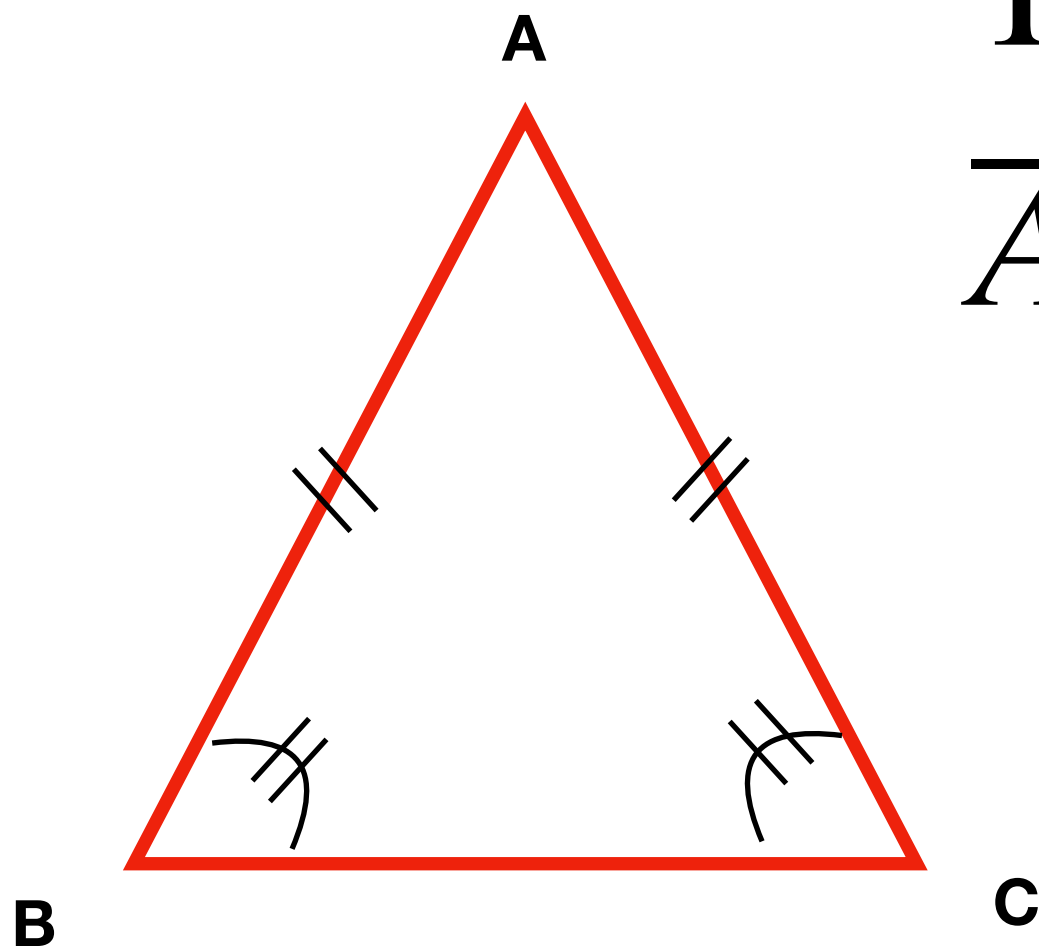
$$\overline{DC} = \overline{AB}$$

$$\triangle DBC = \triangle ABC$$



**THIS IS
ABSURD!**





Then

$$\overline{AB} = \overline{AC}$$