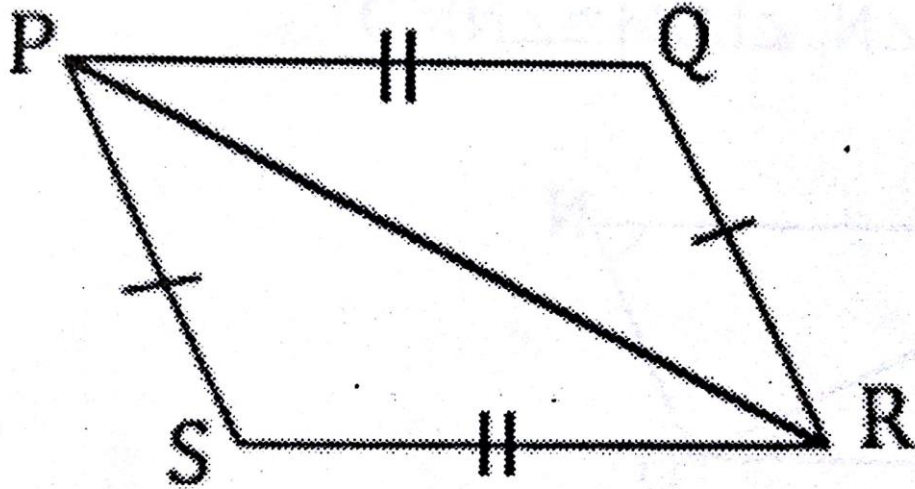


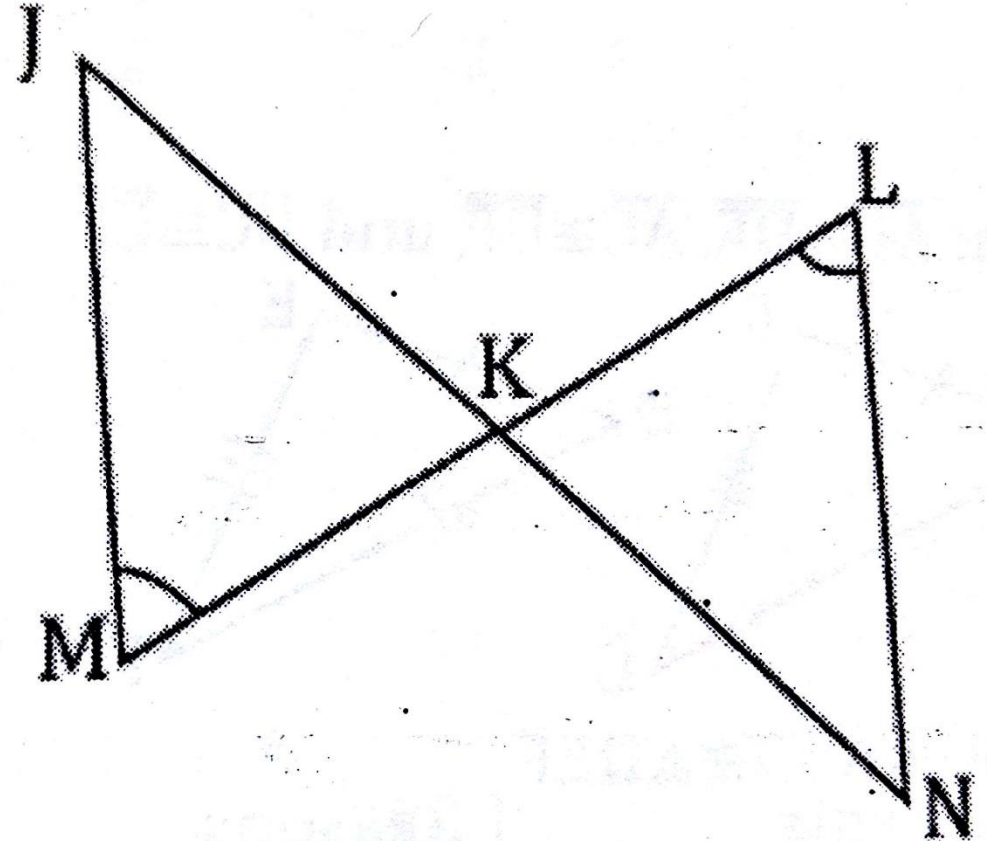
Warm Up

Given:  $\overline{PS} \cong \overline{QR}$ ,  $\overline{PQ} \cong \overline{SR}$



Prove:  $\triangle PRS \cong \triangle RPQ$

Given:  $\overline{JN}$  Bisects  $\overline{ML}$ ,  $\angle M \cong \angle L$

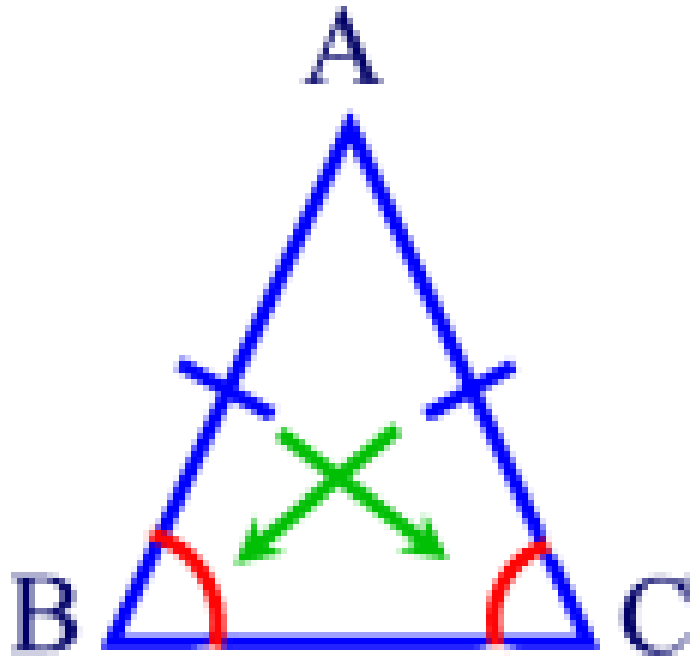


Prove:  $\triangle MJK \cong \triangle LNK$

GOH

# Isosceles Triangle Theorem

Theorem: If two sides of a triangle are congruent, then the angles opposite them are congruent.



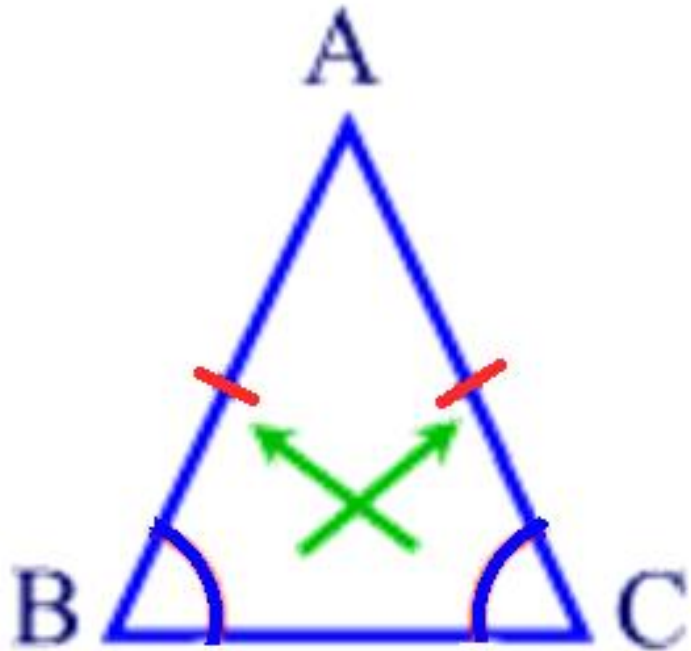
ITT

If :  $\overline{AB} \cong \overline{AC}$

then :  $\angle B \cong \angle C$

# Converse of the Isosceles Triangle Theorem

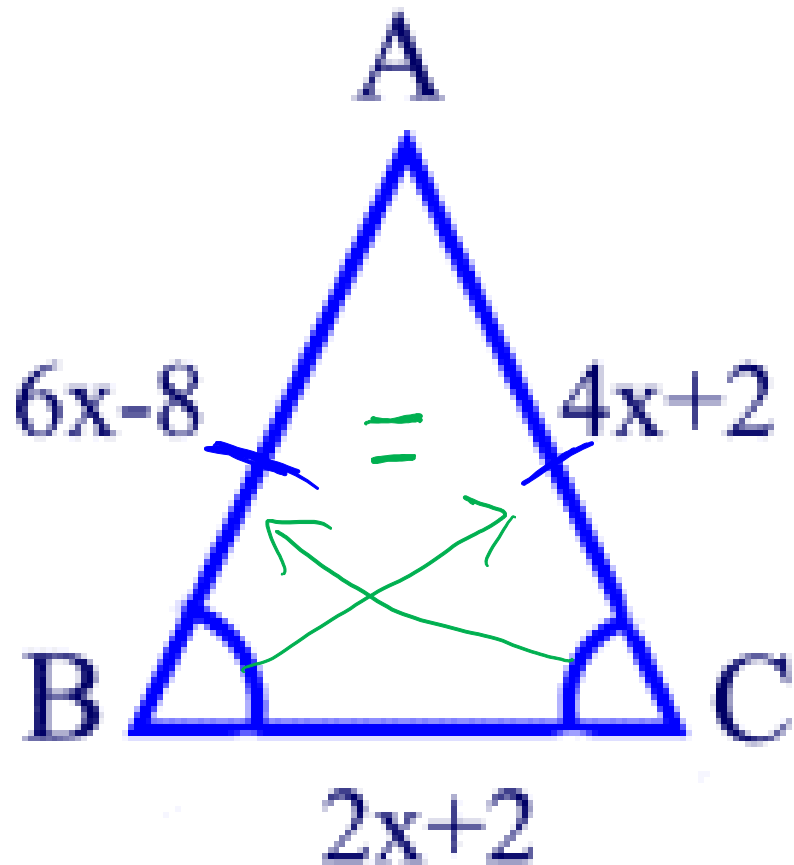
Theorem: If two angles of a triangle are congruent, then sides opposite them are congruent.



*If* :  $\overline{AB} \cong \overline{AC}$

*then* :  $\sphericalangle B \cong \sphericalangle C$

Example: Solve for x.

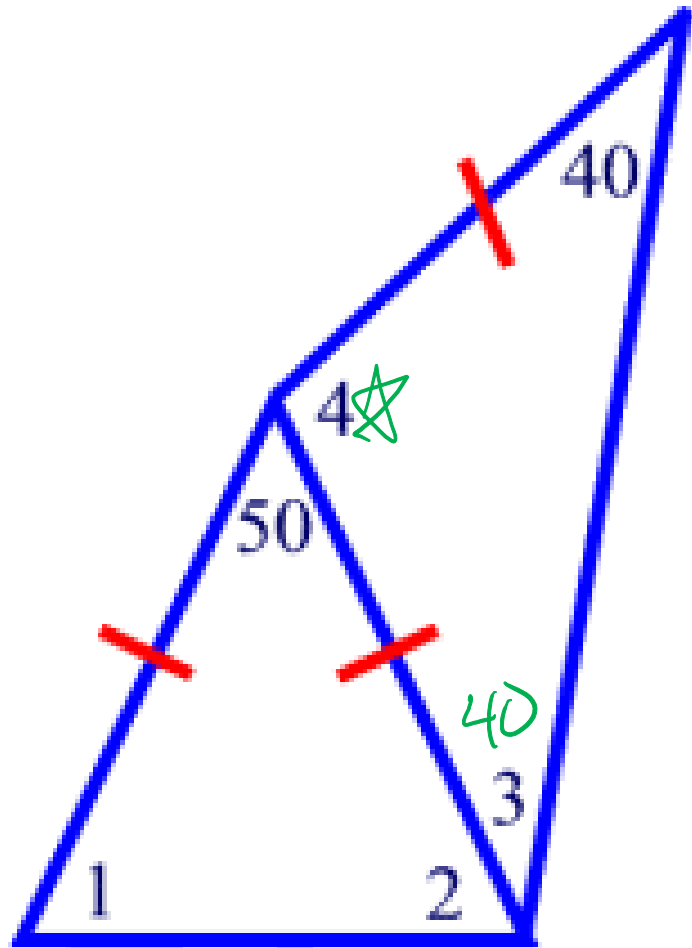


$$6x-8 = 4x+2$$

$$2x = 10$$

$$x = 5$$

Example: Solve for angle measures 1, 2, 3 and 4.

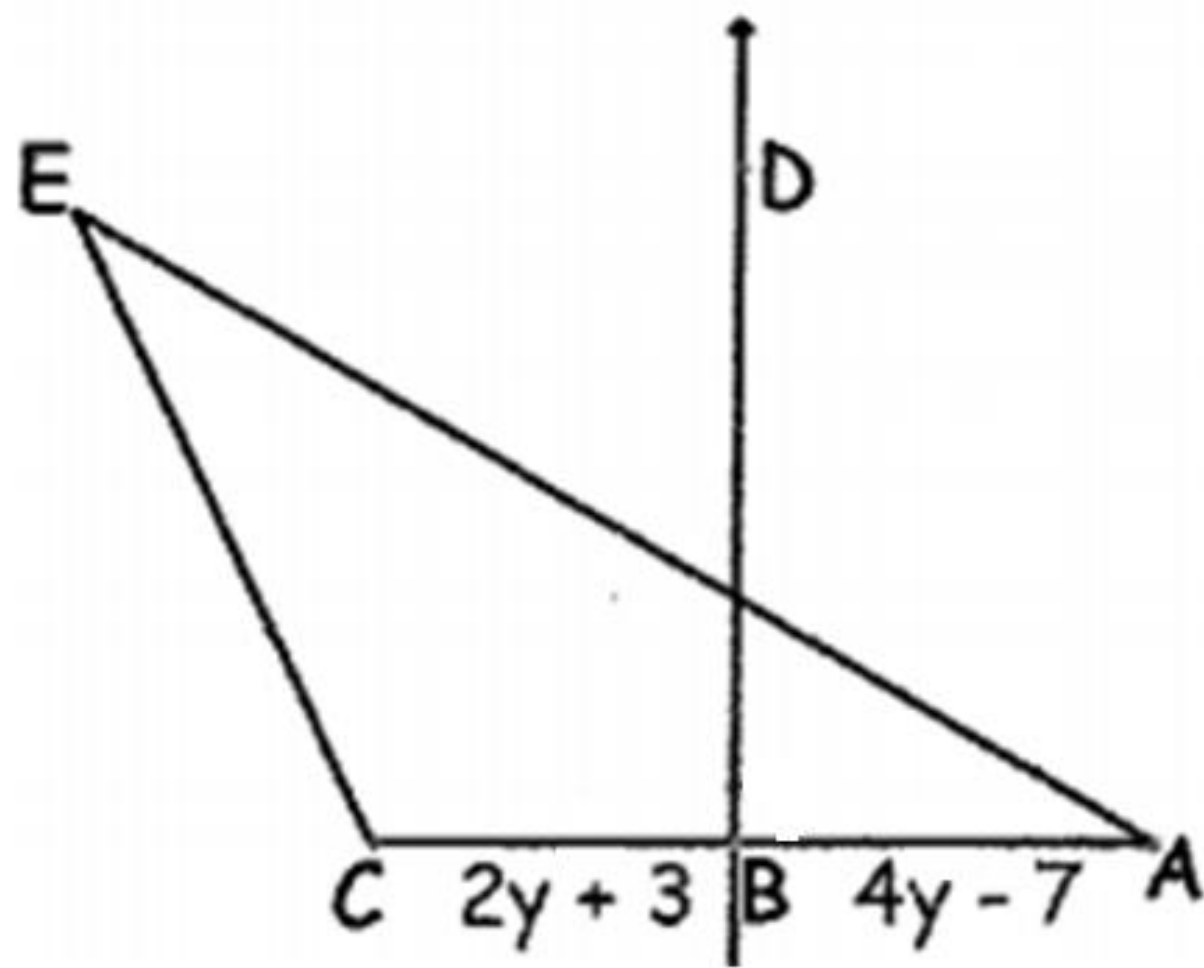


$$40 + 40 = 80$$

## Vocab Review (You already have these in your notes from Day 1 of last unit.)

- Angle bisector – ray that divides an angle into two congruent angles
- Perpendicular bisector – line that is perpendicular to a segment at its midpoint
  - Note: Does not necessarily start at or pass through the vertex of a figure.

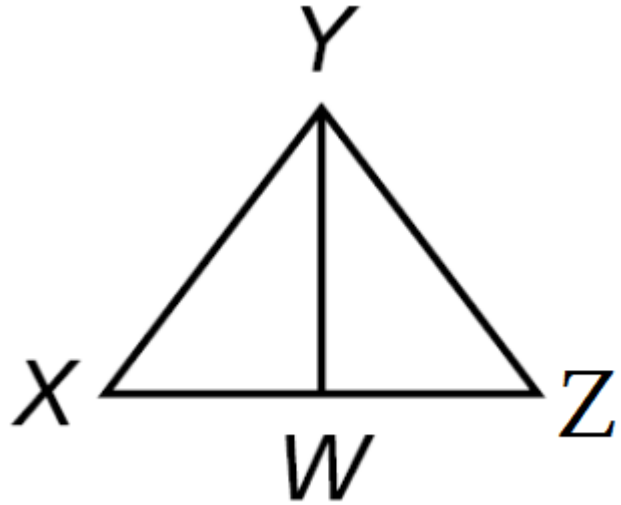
Example #4:  $\overline{BD}$  is the perpendicular bisector of  $\overline{AC}$ . Find  $AC$ .





Given:  $\overline{YW}$  is a perpendicular bisector

Prove:  $\angle XYW \cong \angle ZYW$



Given:  $\overline{PR}$  bisects  $\angle QPR$  and  $\angle QRS$

Prove  $\overline{PQ} \cong \overline{PS}$

