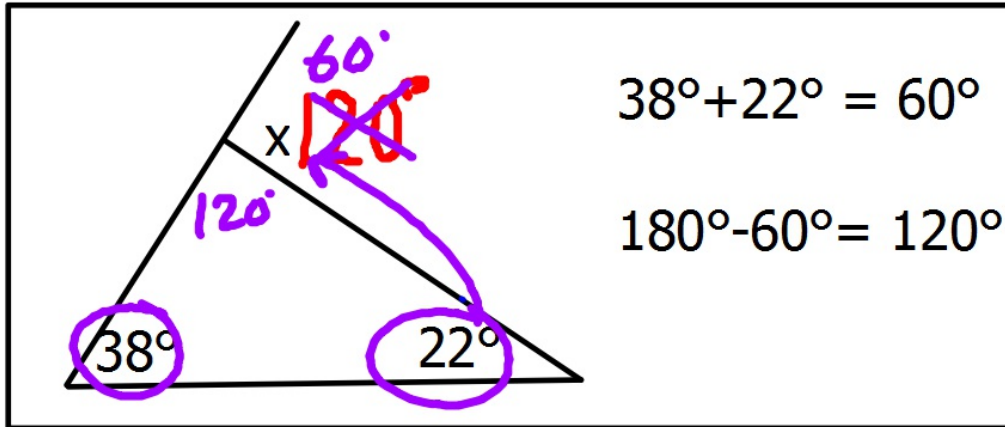


Good morning: warm up in notebooks



$$38^\circ + 22^\circ = 60^\circ$$

$$180^\circ - 60^\circ = 120^\circ$$

Your friend found the value of  $x$  as shown.

**Has she made any mistakes?**

If so, explain and correct them.

If not, show why.

Reminders:

- Assess on Mon 11/14
- Reassess in any DS except Weds.

## Triangle Types (notes)

What do you already know about these terms?  
Talk about them with your elbow partner.

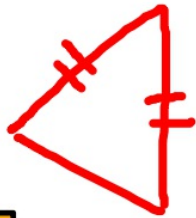
scalene



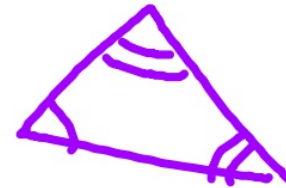
obtuse triangle



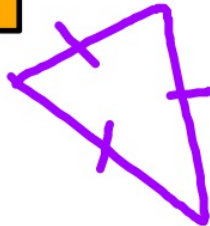
isosceles



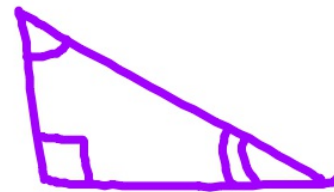
acute triangle



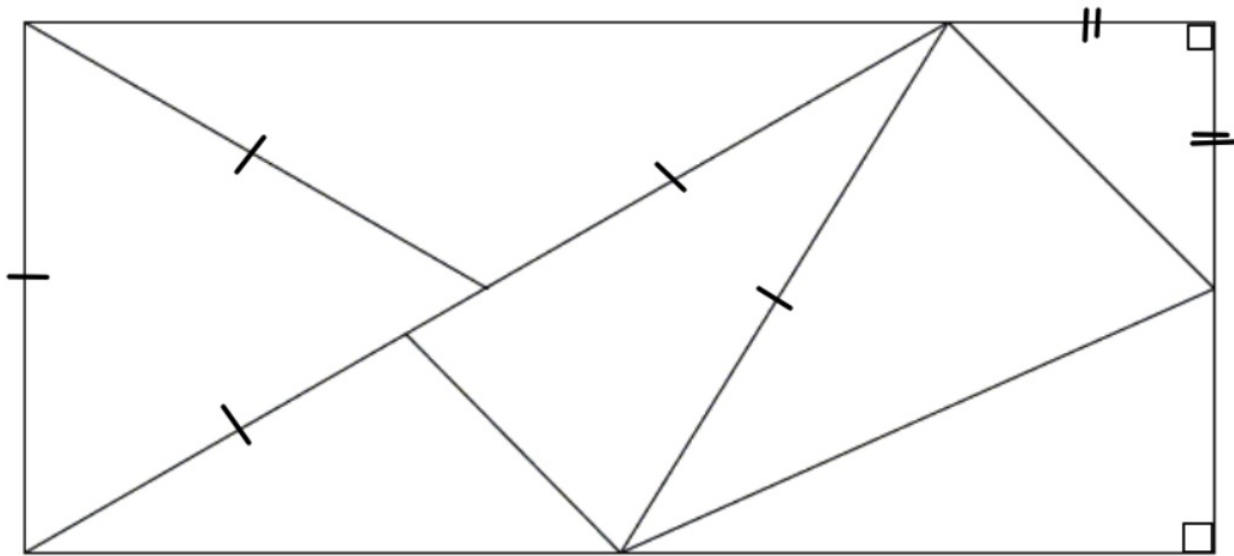
equilateral



right triangle

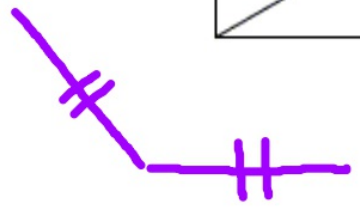
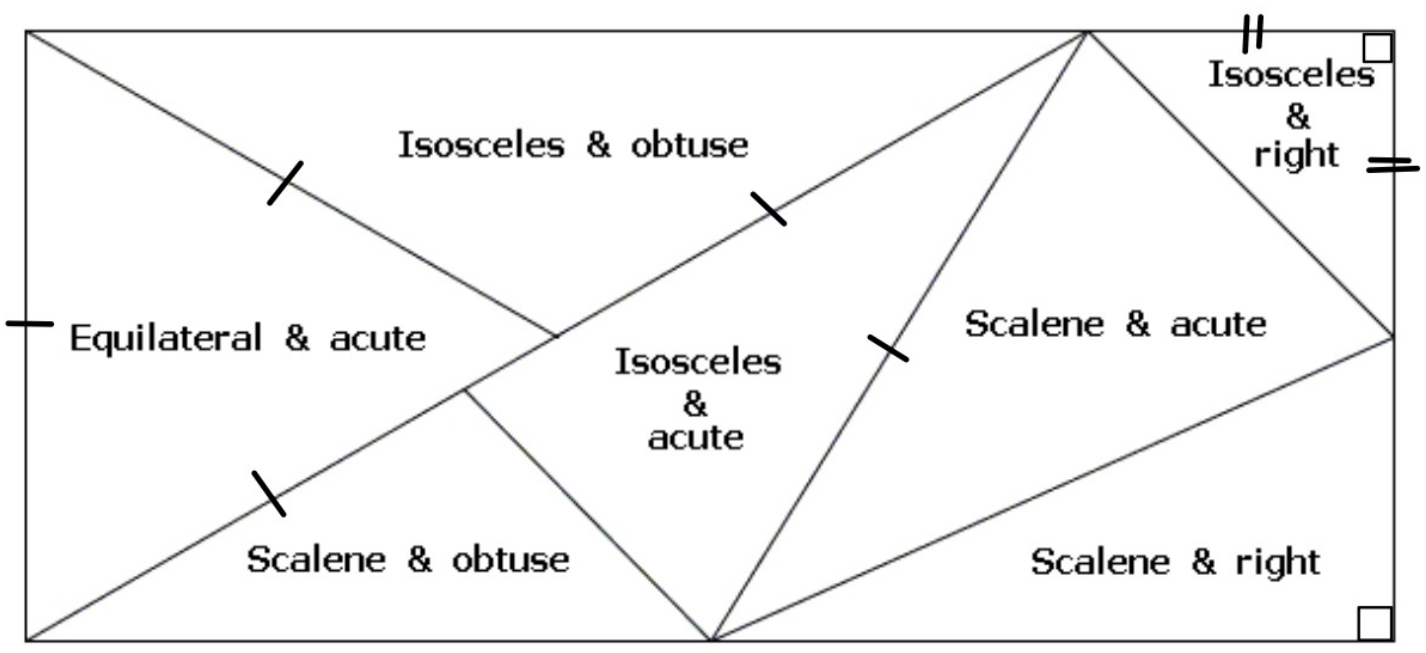


Classify each triangle 2 ways: by its angles and by its sides



Scalene  
Isosceles  
Obtuse  
Right

Equilateral  
Acute

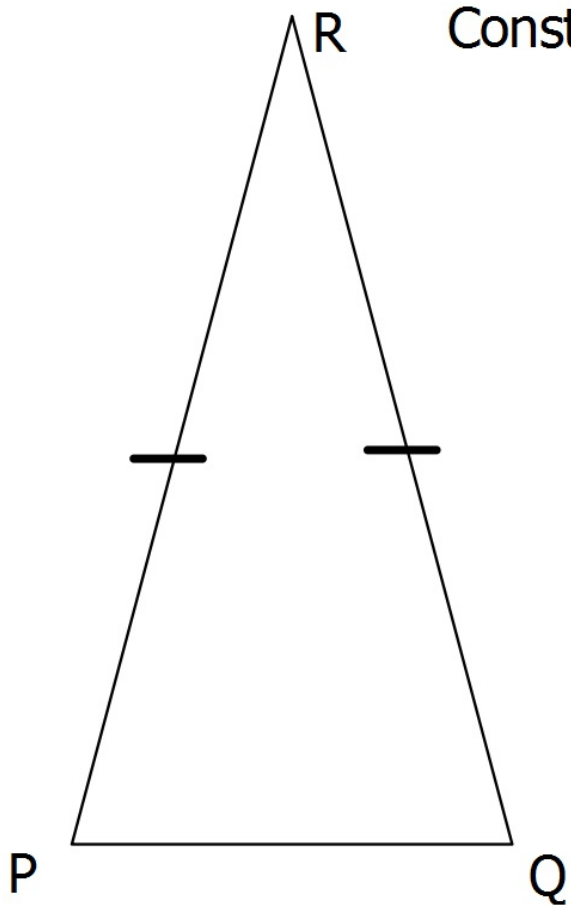


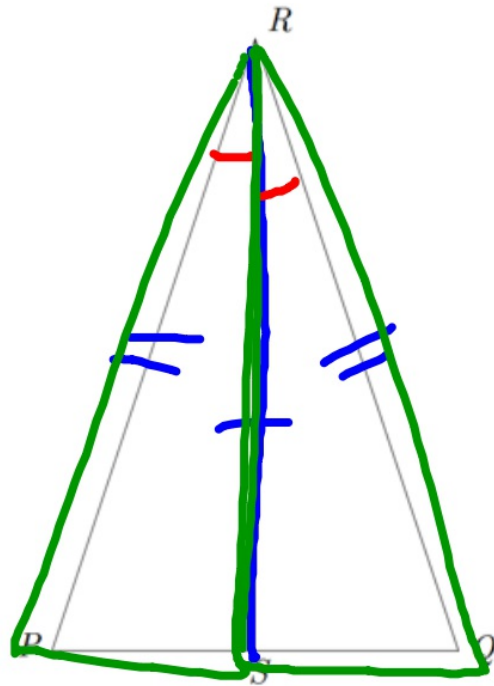
## Constructing an Isosceles Triangle

1. Mark a segment AB. This will be the base [label as such]
2. Needle on A, open compass to desired length, mark arc.
3. Keep compass setting, needle on B, mark intersecting arc. Mark intersection C. This is the vertex of the triangle. [label]
4.  $\angle A$  and  $\angle B$  are base angles,  $\angle C$  is the vertex angle [label as such]
5. CA and CB are legs.

Now: construct isosceles triangle PQR with vertex R

Construct the angle bisector of  $\angle R$





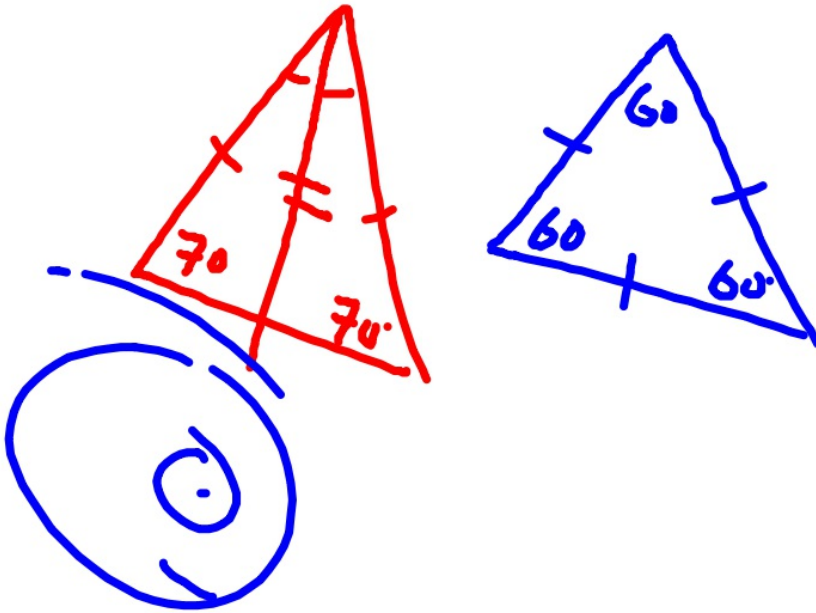
Given: Isosceles triangle PQR with vertex R,  $\overline{RS}$  bisects  $\angle PRQ$

Prove:  $\angle P \cong \angle Q$

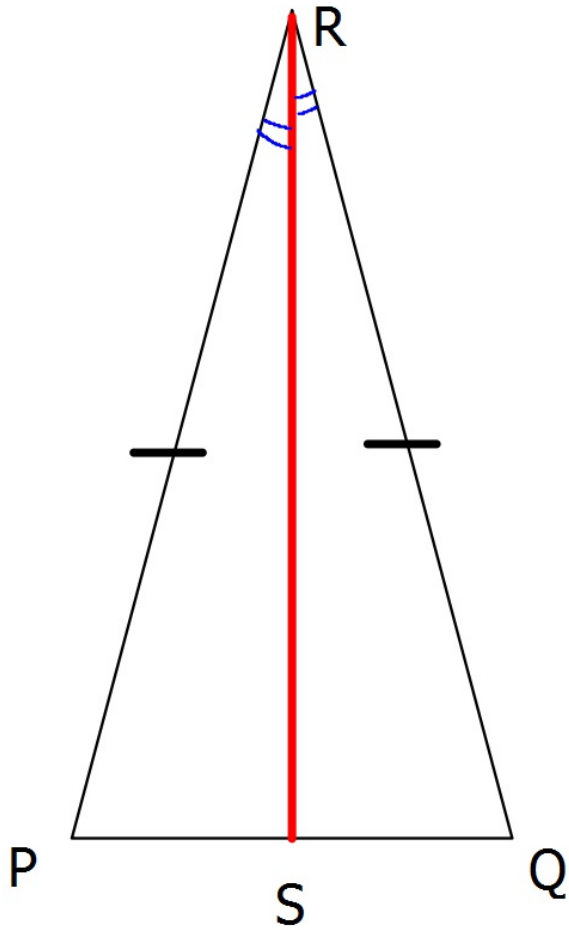
S	R
1. $\overline{RS} \cong \overline{RS}$	1. Given
2. $\overline{RS} \cong \overline{RS}$	2. Reflexive Prop.
3. $\overline{PR} \cong \overline{QR}$	3. Def. of Isos.
4. $\angle PRS \cong \angle QRS$	4. Def. of Bisect
5. $\triangle PRS \cong \triangle QRS$	5. SAS
6. $\angle P \cong \angle Q$	6. CPCTC

## Isosceles Triangle Theorem

If a triangle is isosceles, then its base angles are congruent.

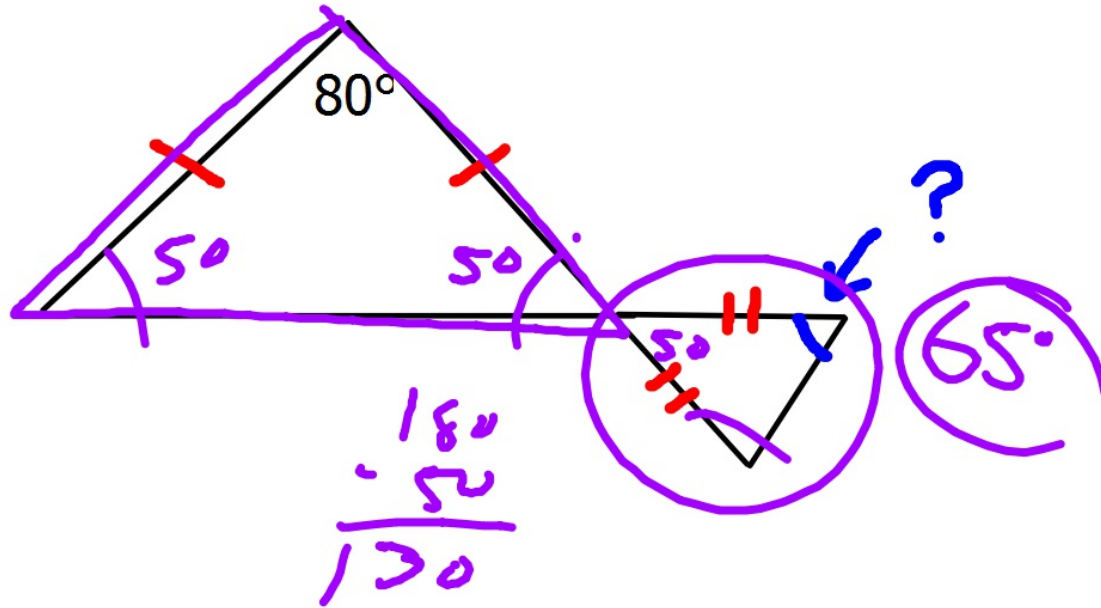


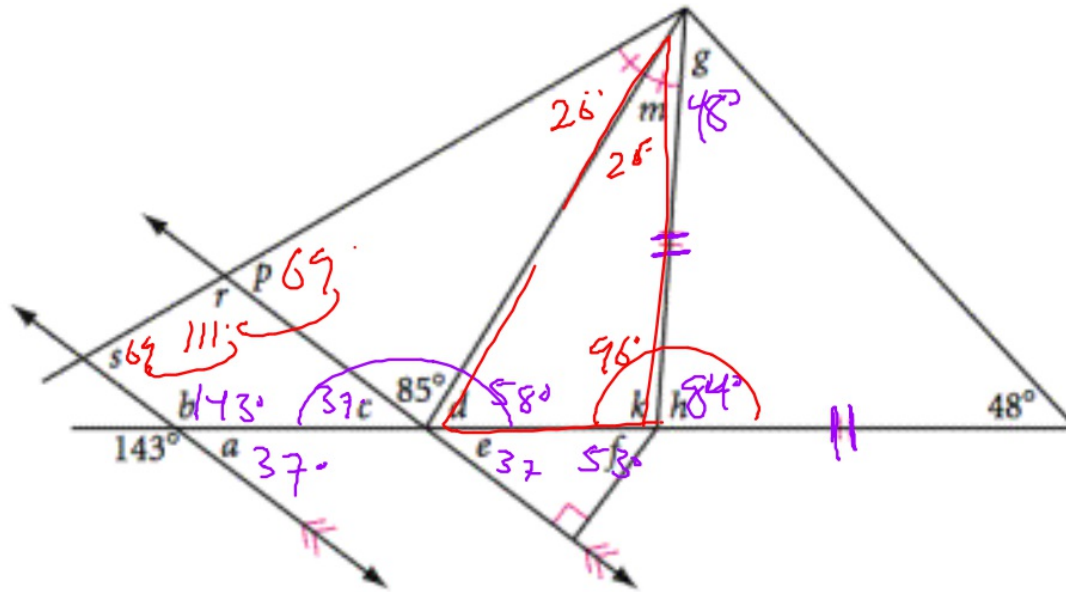




Since  $\triangle PSR \cong \triangle QSR$ , what else do we know?

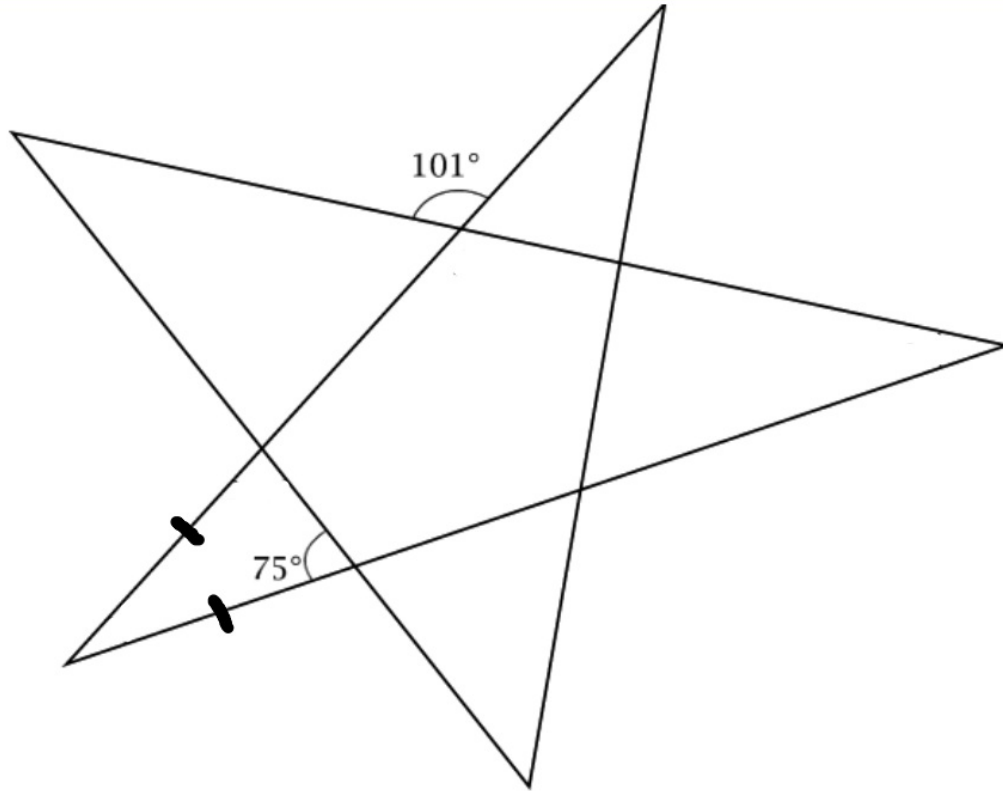
Find the indicated angle measure





Find the angles:

a b c d e f g h k m p r s



Find as many angles  
as you can :)

Homework

p. 189

#5-8, 11-19 [CO-C10a]