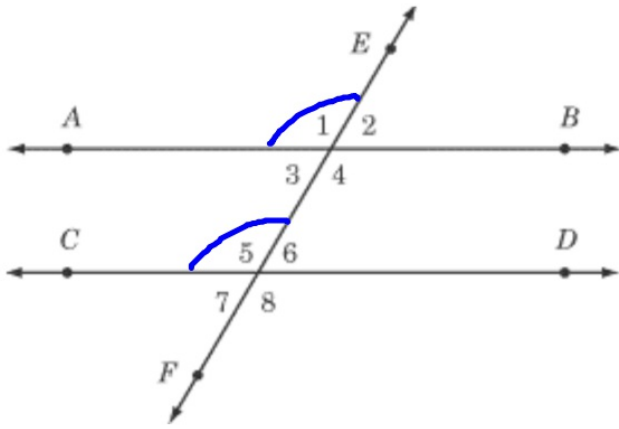


Good afternoon: warm up in notes



Copy the figure:

Given that $\angle 1 \cong \angle 8$, why is $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$?

Explain with detail and evidence.

$\angle 1 \cong \angle 8$ (given)
 $\angle 8 \cong \angle 5$ (vertical)
 $\Rightarrow \angle 1 \cong \angle 5$ (substitution,
transitive property)
Corres,
 \cong
 \Rightarrow lines parallel Q.E.D.

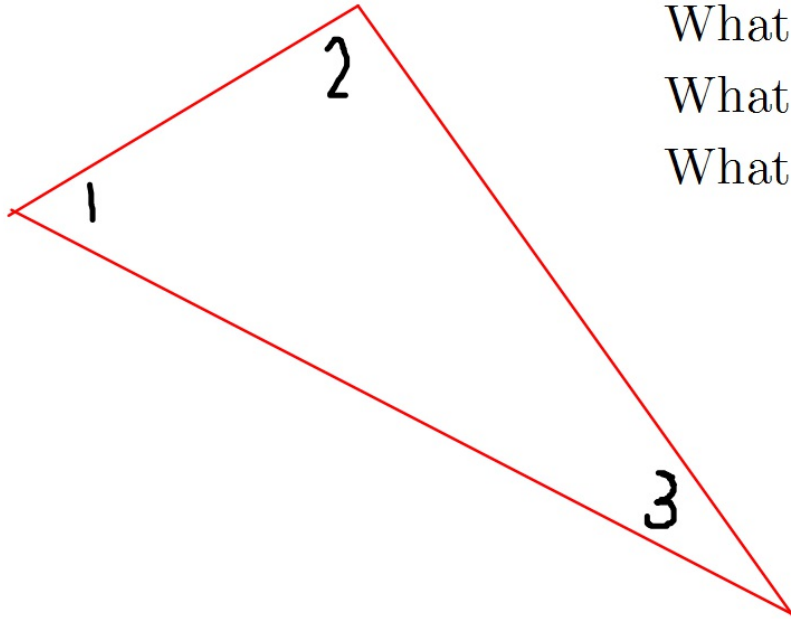
Reminders:

Assessment Monday!

Can reassess in DS tomorrow

Triangle Angle Sum Theorem

(notes)



What do you notice about this triangle?
What do you wonder about this triangle?
What do you wonder about all triangles?

<http://www.mathopenref.com/triangleinternalangles.html>

On construction paper, use a straight edge and draw a large triangle.

Label its angles 1, 2, and 3 in the interior of the triangle.

Cut the triangle out.

Carefully rip the angles off the triangle (rip, don't cut)

Play with angles 1, 2, and 3 until you notice a pattern about their relationship

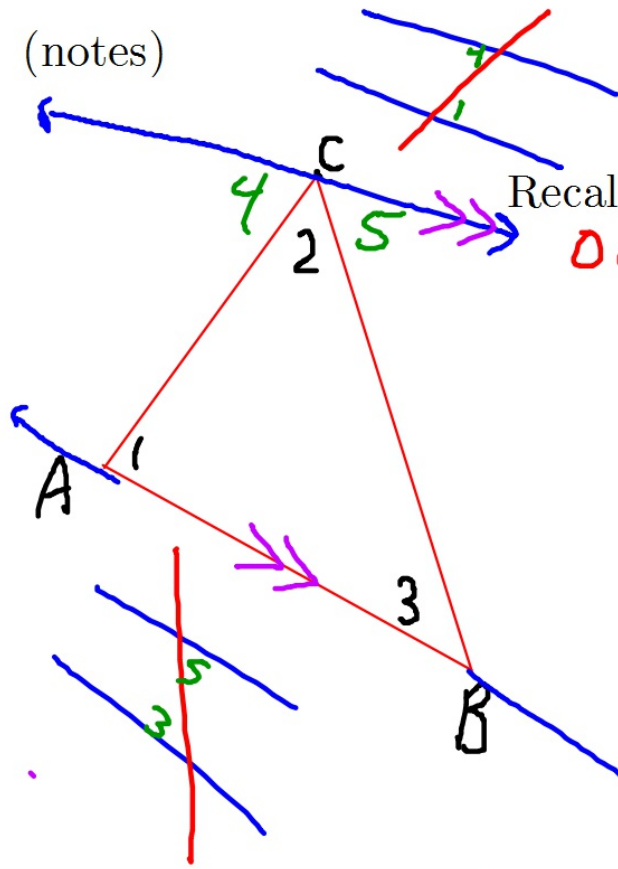
Glue the ripped triangle and its arranged angles into your notes

Conjecture: The three angles of a triangle seem to add up to 180° .

(notes)

Given: Triangle ABC

Prove: $\angle 1 + \angle 2 + \angle 3 = 180^\circ$



Recall Euclid's 5th postulate:

only 1 parallel line thru a point.

By Euclid's 5th, make a parallel thru C.
Mark \angle 's 4 and 5.

$\angle 4 \cong \angle 1$ (Alt. Int.)

$\angle 5 \cong \angle 3$ (Alt. Int.)

$\angle 4 + \angle 2 + \angle 5 = 180^\circ$

$\angle 1 + \angle 2 + \angle 3 = 180^\circ$

By Sub.,

Theorem: The sum of the angle measures in a triangle is 180° .

Example:

Find the value of x .

$$50 + 52 + x = 180$$

$$102 + x = 180$$

50°

50°

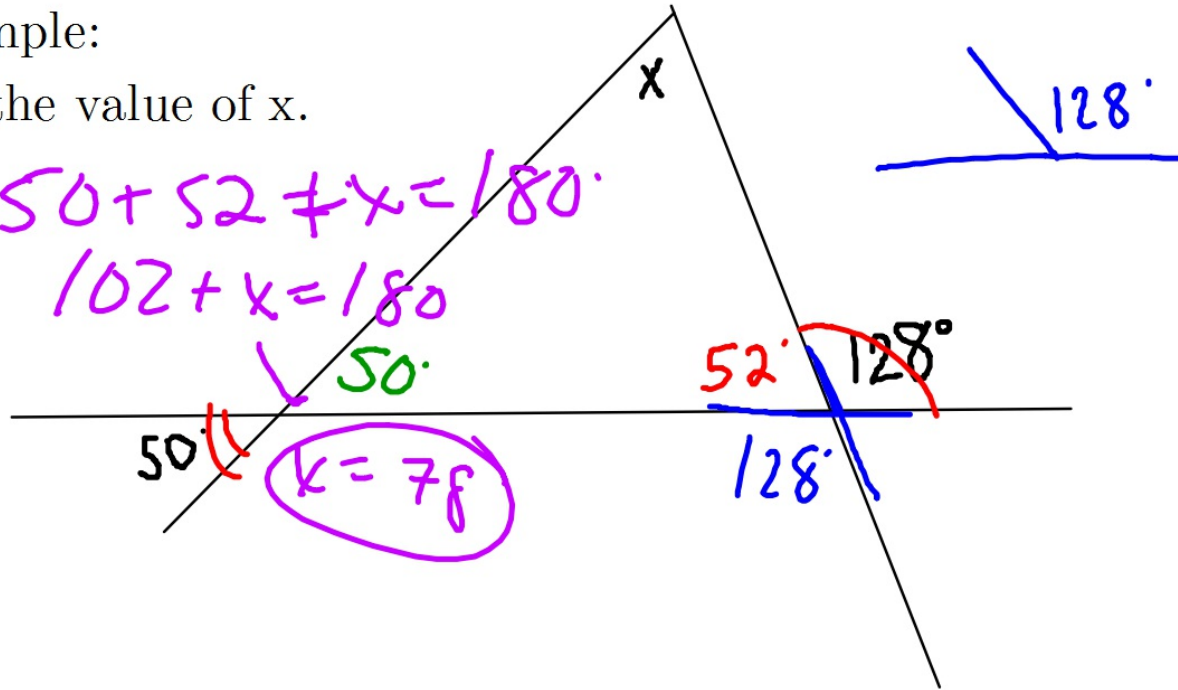
$$x = 78$$

52°

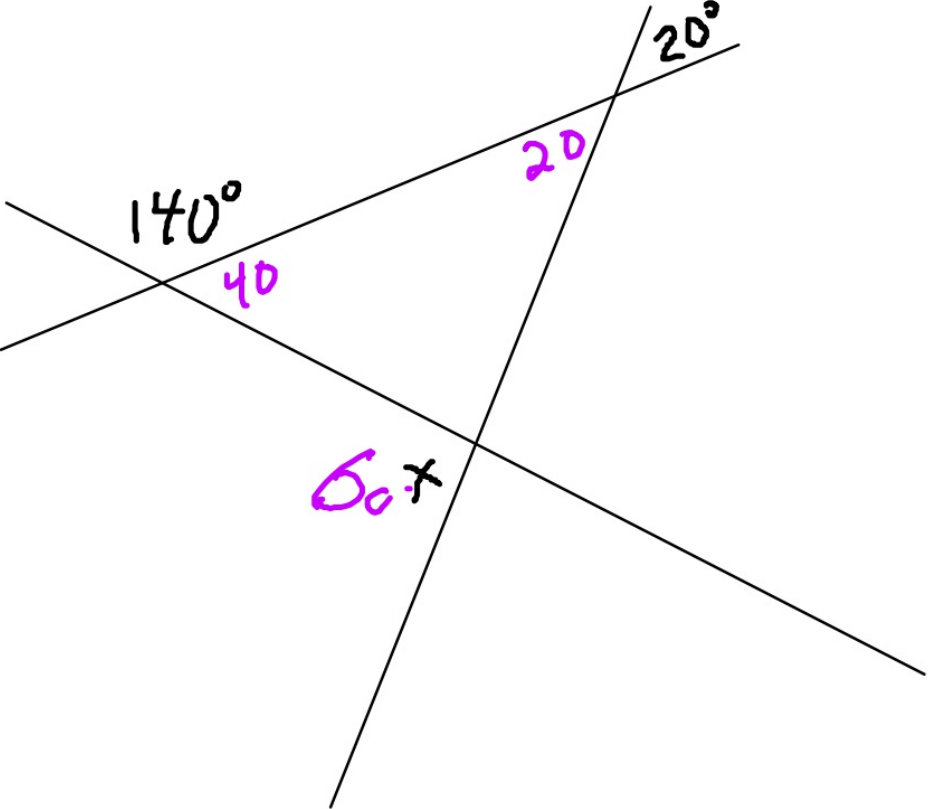
128°

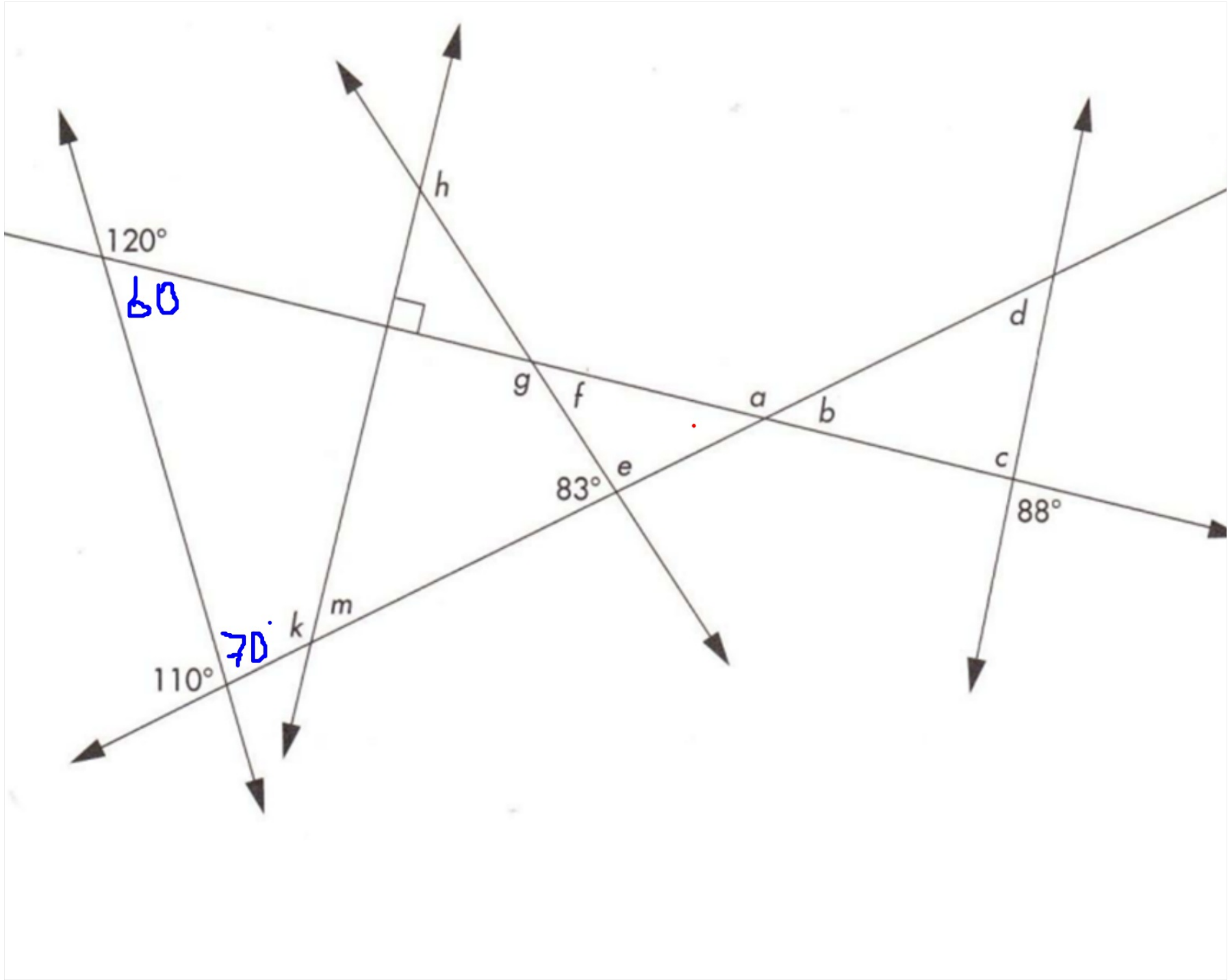
128°

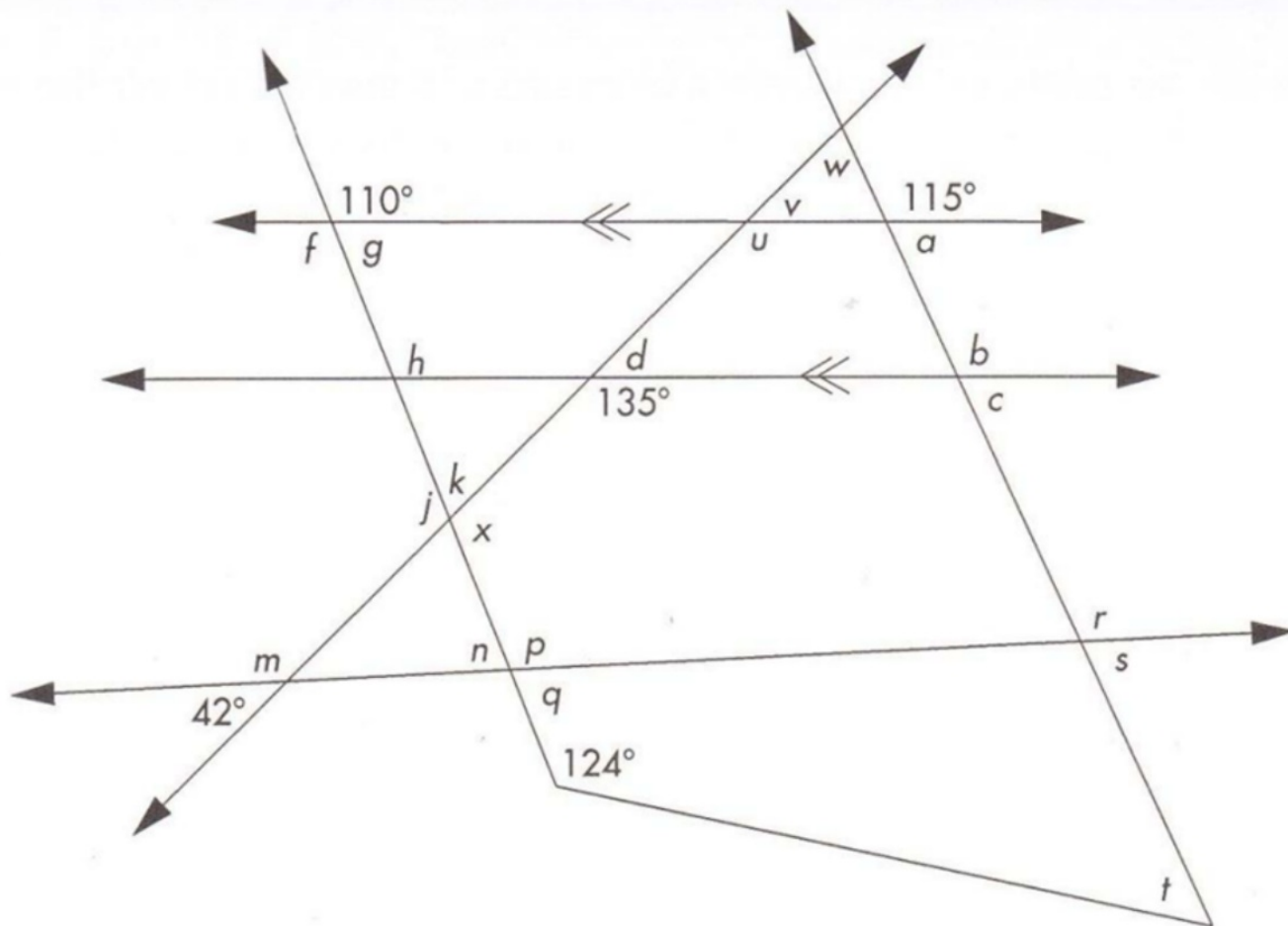
128°



Example:







Homework:

Complete the Practice Assessment

Solutions posted at mgeo.weebly.com

Study for assessment!