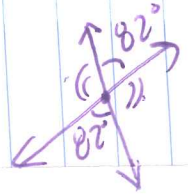
L13-2 "Vertical ∠s" → equal

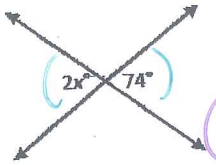


Name: _____ per: _____

Writing Equations for Vertical Angles

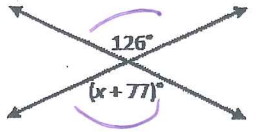
Find the values of x and y.

1. $x =$ 37



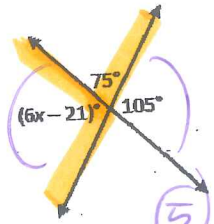
① $2x = 74$
$\frac{2x}{2} = \frac{74}{2}$
$x = 37$

2. $x =$ _____



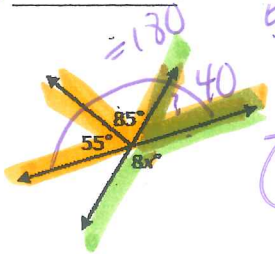
② $126 = x + 77$

3. $x =$ 21



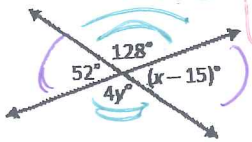
③ $6x - 21 = 105$
$+21 \quad +21$
$6x = 126$
$\frac{6x}{6} = \frac{126}{6}$
$x = 21$

4. $x =$ _____



④ $8x + 40 = 180$
$55 + 85 = 140$

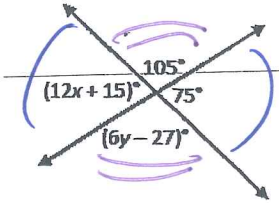
5. $x =$ 67
$y =$ 32



⑤

x	y
$52 = x - 15$	$128 = 4y$
$+15 \quad +15$	$\frac{128}{4} = \frac{4y}{4}$
$67 = x$	$32 = y$

6. $x =$ _____
$y =$ _____



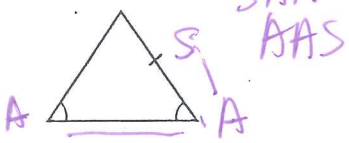
⑥

x	y
$12x + 15 = 75$	$6y - 27 = 105$

L 14-2 "UNIQUE TRIANGLES" PG. 151

UNIQUE TRIANGLES- Only one triangle can be formed with the given dimensions.

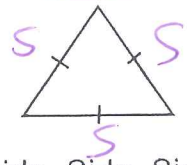
AAS



SAA
AAS

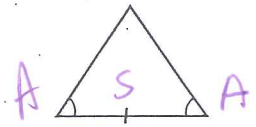
Angle, Angle, Side

SSS



Side, Side, Side

ASA

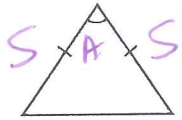


Angle, Side, Angle

With included Side

The side is in the middle of the two angles therefore, it's included

SAS



Side, Angle, Side

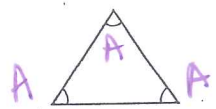
With included Angle

The angle is in the middle of the two sides therefore, it is included

UNIQUE	NOT UNIQUE
AAS ↔ SAA	AAA
SSS	SSA ↔ ASS
ASA	
SAS	

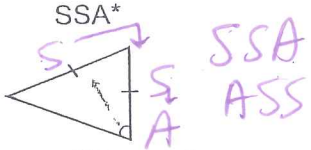
NOT UNIQUE- Many triangles can be formed with the given dimensions.

AAA



Angle, Angle, Angle

SSA*



SSA
ASS

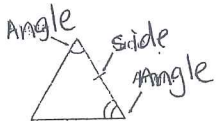
Side, Side, Angle

When side measurements are given the side opposite the angle must be the longest side otherwise the triangle is NOT UNIQUE.

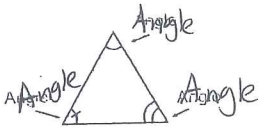
GUIDED EXAMPLES:

Classify each triangle as SAS, SSS, ASA, AAS, SSA, OR AAA.
Then specify if the triangle is UNIQUE or NOT UNIQUE.

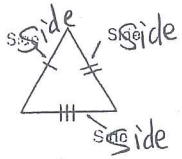
Note: The triangles are examples and are not drawn to scale.



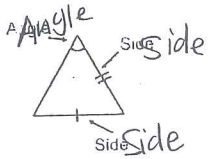
ASA
Unique



AAA
NOT Unique



SSS
Unique

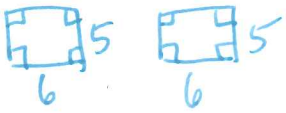


SSA
NOT Unique

L15-1 Similar Figures p. 159

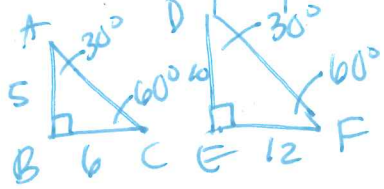
LT: Identify if polygons are similar.
Find a common ratio for corresponding lengths

Vocab: congruent figures ($\cong$)
↳ exactly the same
↳ same lengths & angles



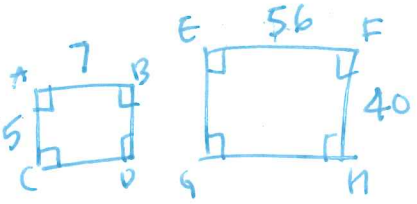
Corresponding parts
↳ $\overline{AB}$ & $\overline{DE}$
$\angle B$ & $\angle E$

Similar figures ($\sim$)
↳ same angles BUT
lengths can be diff.
↳ corresponding ones have to be proportional



A) are they similar?
Step 1: check $\angle$s first
they have to be =
2: corr. sides proportional?

ex)



$\angle$s = yes!
all 90°

lengths $\overline{AB}$ corr. $\overline{EF}$
& $\overline{AC}$ corr $\overline{EG}$

write as a fraction

$$\frac{AB}{AC} = \frac{EF}{EG}$$

cross x or shortcut →

$$\frac{7}{5}\left(\frac{\times 8}{\times 8}\right)\frac{56}{40}$$

same

yes! proportional