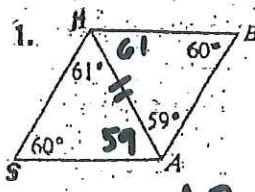
≅ △ WS #3

Review WS 4.1-6

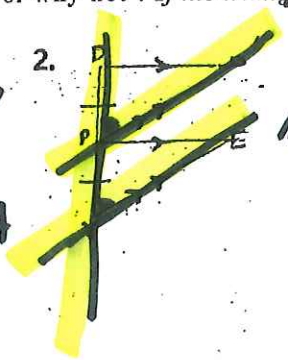
Name: _____

#1-6, Are the two triangles congruent? Why or why not ? *If the triangles are congruent, name them.*

1. 

ASA, AAS, SAA

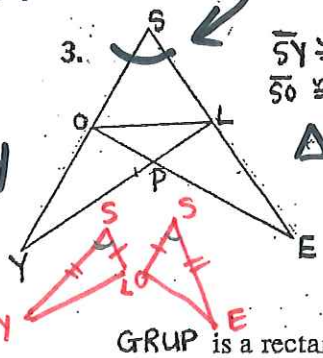
△BAH ≅ △SAH

2. 

AAS / SAA

ASA

△DOP ≅ △PEY

3. 

share ∠S

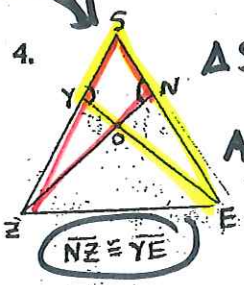
$\overline{SY} \cong \overline{SE}$

$\overline{SO} \cong \overline{SL}$

△SLY ≅ △SOE

SAS

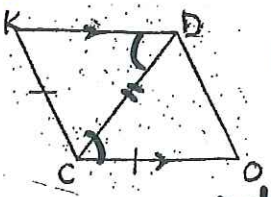
Share ∠S

4. 

$\overline{NZ} \cong \overline{YE}$

△SNZ ≅ △SYE

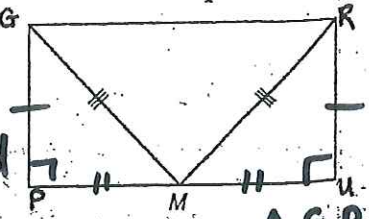
AAS or SAA

5. 

No, ASS or not correspond

GRUP is a rectangle.

6. ___ *M* is a midpoint.

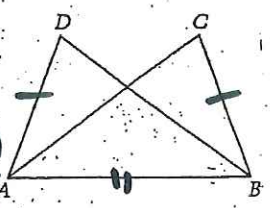


SAS or SSS

△GPM ≅ △RUM

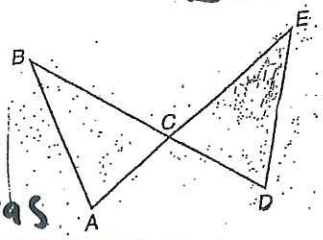
#7-10, Write a two column proof. (Note: # 8, 9 and #10 you are proving *parts* are congruent)

7. Given: $AD = BC$; $m\angle DAB = m\angle CBA$
Prove: $\triangle ADB \cong \triangle BCA$



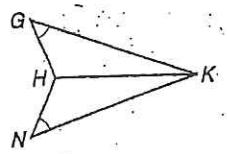
State	Reason
1. AD = BC	1. given
2. ∠DAB = ∠CBA	2. given
3. AB = AB	3. Reflexive
4. △ADB = △BCA	4. SAS

8. Given: $\angle A \cong \angle D$
$\overline{AB} \cong \overline{DE}$
Prove: $\overline{CA} \cong \overline{CD}$



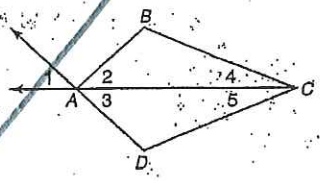
Statement	Reas
1. ∠A = ∠D	1. G
2. $\overline{AB} = \overline{DE}$	2. G
3. ∠BCA = ∠ECD	3. Vertical ∠s
4. △BCA = △ECD	4. AAS
5. CA = CD	5. CPCTC

9. Given: $\overline{HK}$ bisects $\angle GKN$.
$\angle G \cong \angle N$
Prove: $\overline{GK} \cong \overline{NK}$

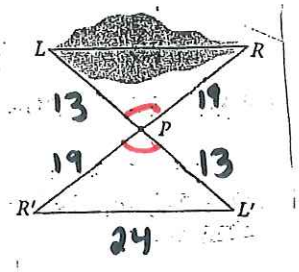


State	Reas
1. $\overline{HK}$ bisects ∠GKN	1. Given
2. ∠G = ∠N	2. Given
3. ∠GKN = ∠NKH	3. def. bisects
4. HK = HK	4. reflexive
5. △GKN = △NKH	5. AAS or SAA
6. GK = NK	6. CPCTC

10. Given: $\angle 2 \cong \angle 1$
$\angle 4 \cong \angle 5$
Prove: $\overline{BC} \cong \overline{DC}$



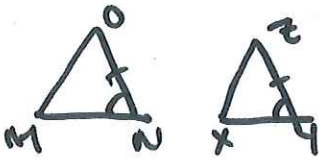
11. To measure the width of the pond Kira and Ian place a marker at P and stand at the two ends of the pond. Kira paces the distance from L to P, 13 paces, then continues walking the same number of paces straight ahead. Ian begins at R and does the same thing, which takes him 19 paces. Ian then walks to Kira which is 24 paces. How wide is the pond? How do Kira and Ian know this will work?



Δs are ≅ b/c of SAS. So pond is 24 paces because it corresponds to what Ian walked.

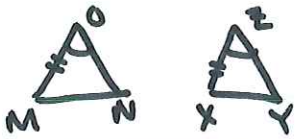
Draw and label triangles MNO and XYZ. Indicate the additional pair of corresponding parts needed to prove the triangles are congruent by the indicated method.

12. <N = <Y & NO = YZ; ASA



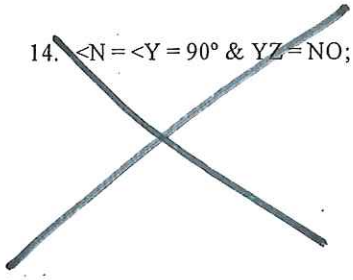
<O ≅ <Z

13. <O = <Z & MO = XZ; AAS



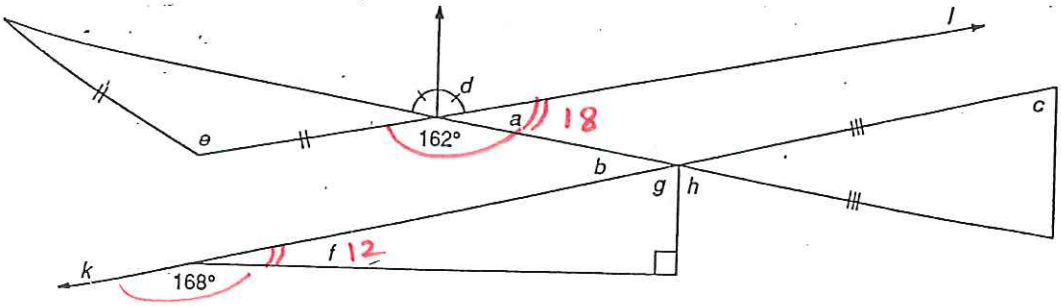
<N ≅ <Y

14. <N = <Y = 90° & YZ = NO; HL



15. **Find the measure of each indicated angle.** $l \parallel k$

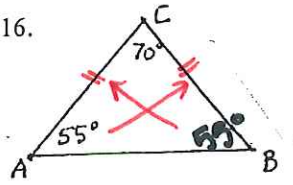
a = 18
b = 18
c = 81
d = 81
e = 144
f = 12
g = 78
h = 84



(Isn't this one fun?)

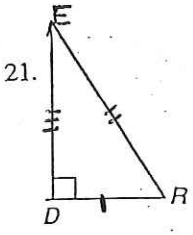
#16-18, Classify each triangle by angles and sides.

16.



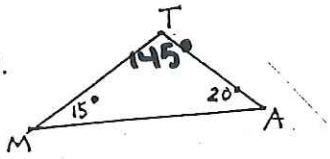
isosceles + acute

17.



right + scalene

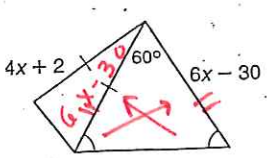
18.



obtuse + scalene

#19-20, Solve for the variables.

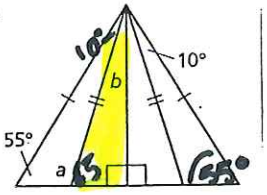
19.



6x - 30 = 4x + 2

x = 16

20.



a = 115°

b = 25°