Name: Key Date : _____ Hour: _____

Notes on Congruent Triangles 4.3- 4.5

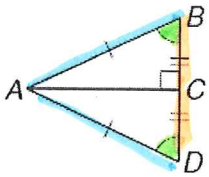
1. If $\triangle RST \cong \triangle UWV$, complete each pair of congruent parts.

$\angle R \cong$ $\angle U$ $\quad$ $\angle S$ $\cong \angle W$ $\quad$ $\angle T \cong$ $\angle V$

$\overline{RT} \cong$ $\overline{UV}$ $\quad$ $\overline{RS}$ $\cong \overline{UW}$ $\quad$ $\overline{ST}$ $\cong \overline{WV}$

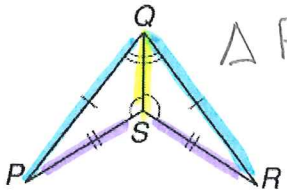
2. Identify the congruent triangles in each diagram.

a.



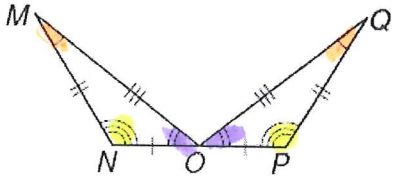
$\triangle ABC \cong \triangle ADC$

b.



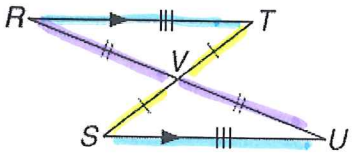
$\triangle PQS \cong \triangle RQS$

c.



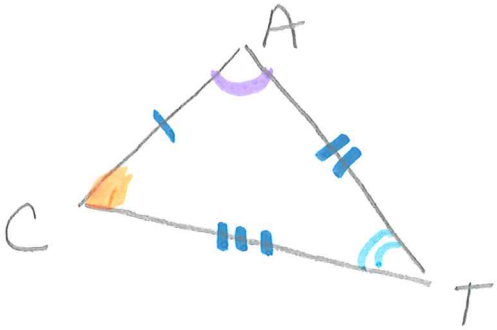
$\triangle MON \cong \triangle QPO$

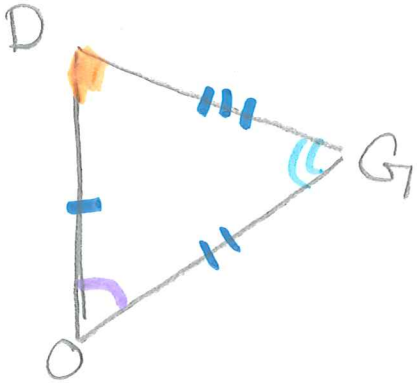
d.

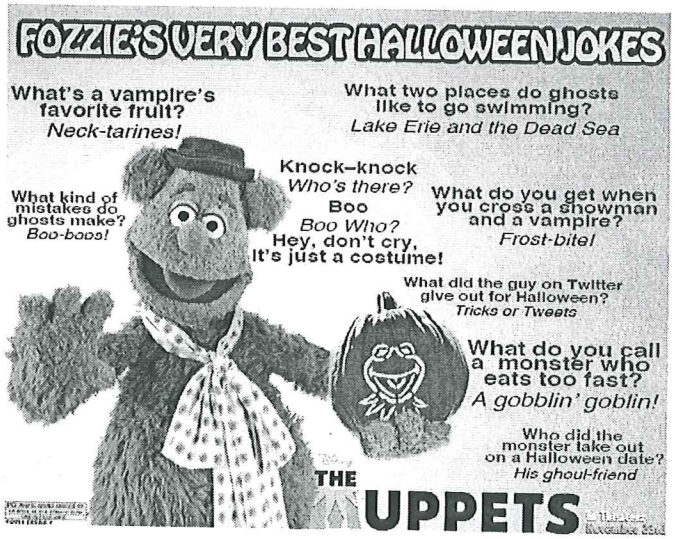


$\triangle VTR \cong \triangle VSU$

If $\triangle CAT \cong \triangle DOG$ Draw an illustration of this and name all of the congruent corresponding parts:

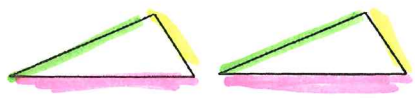






This takes too long!!!!!!!!! Let's see if there are any shortcuts!

Triangle Congruence Shortcut - Side Side Side (SSS)



Does SSS work for Triangle Congruence?

Triangle Congruence Shortcut-Side Angle Angle (SAA or AAS)

Does SAA work for Triangle Congruence?

Triangle Congruence Shortcut - Side Angle Side (SAS)

Does SAS work for Triangle Congruence?

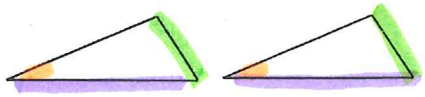
Triangle Congruence Shortcut-Angle Angle Angle (AAA)

Does AAA work for Triangle Congruence?

Triangle Congruence Shortcut-Angle Side Angle (ASA)

Does ASA work for Triangle Congruence?

Triangle Congruence Shortcut – Angle Angle Side (ASS!?!?!?#$%#!)



Does SSA or ASS work for Triangle Congruence?

What were the six Triangle Congruence Shortcuts that we studied?

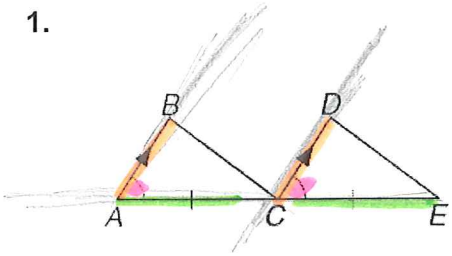
SSS AAA SAS ASA AAS SSA

What are the shortcuts that we showed work?

Congruent Triangles In Class Practice

Use the given information to identify the congruent triangles. Describe what congruence shortcut you used and what angles or sides you know are congruent.

1.



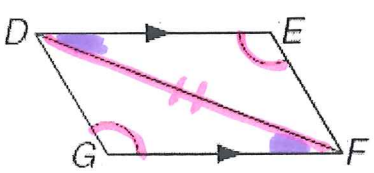
a. Short cut congruence used _____

b. Name the 3 congruent corresponding parts:

$\triangle ABC \cong$

NOT $\cong$

2.



a. Short cut congruence used AAS

b. Name the 3 congruent corresponding parts:

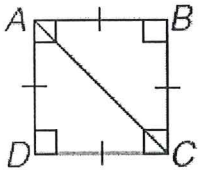
$\triangle DEF \cong \triangle FGD$

A: $\angle G \cong \angle E$ Given

A: $\angle GFD \cong \angle EDF$ // lines form $\cong$ alt int. $\angle$s

S: $\overline{DF} \cong \overline{DF}$ reflexive

3.



a. Short cut congruence used SSS or SAS

b. Name the 3 congruent corresponding parts:

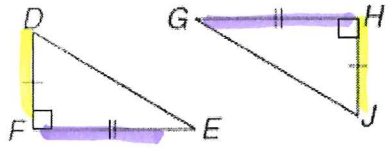
$\triangle ABC \cong \triangle ADC$

S: $AB \cong AD$

A: $\angle B \cong \angle D$

S: $DC \cong BC$

4.



a. Short cut congruence used SAS

b. Name the 3 congruent corresponding parts

$\triangle DFE \cong \triangle JHG$

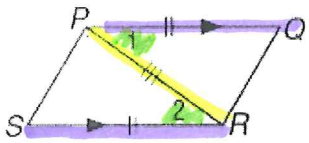
Given

S $FE \cong GH$

A $\angle F \cong \angle H$

S $DF \cong HJ$

5



a. Short cut congruence used SAS

b. Name the 3 congruent corresponding parts:

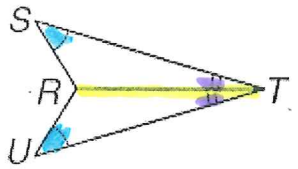
$\triangle SRP \cong \triangle QPR$

S: $PQ = SR$

A: $\angle 1 \cong \angle 2$ // lines form $\cong$ alt int $\angle$s.

S: $PR \cong PR$ reflexive

6.



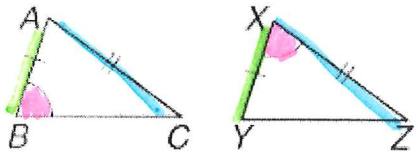
a. Short cut congruence used AAS

b. Name the 3 congruent corresponding parts:

A: ∠S ≅ ∠U
A: ∠UTR ≅ ∠STR
S: RT ≅ RT reflexive

$\triangle STR \cong \triangle UTR$

7.



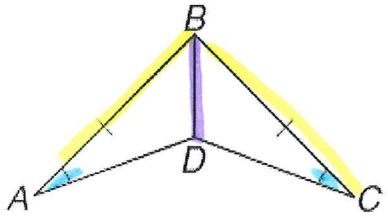
a. Short cut congruence used _____

b. Name the 3 congruent corresponding parts:

NOT ≅

$\triangle ABC \cong$ none

8.



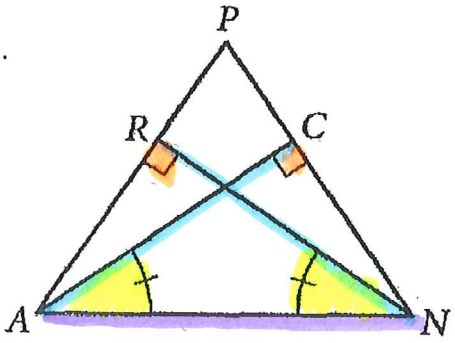
a. Short cut congruence used X

b. Name the 3 congruent corresponding parts:

No swearing in math!!
SSA ≠ short cut

$\triangle ABD \cong \triangle$ X

9.



a. Short cut congruence used SAS or ASA

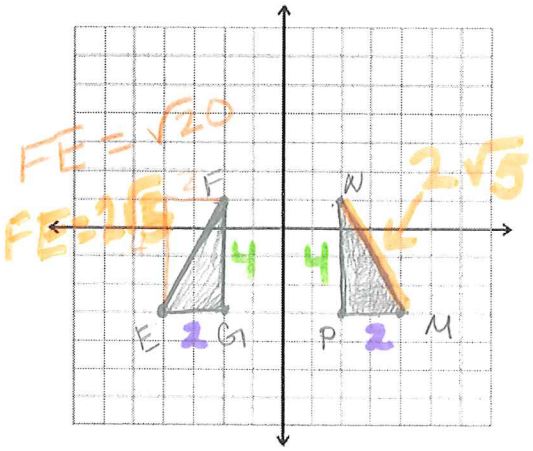
b. Name the 3 congruent corresponding parts:

S RN ≅ CA
A ∠RNA ≅ ∠CAN
S: AN ≅ AN

A: ∠ARN ≅ ∠NCA
S: RN ≅ CA
A: ∠RNA ≅ ∠CAN

$\triangle RNA \cong \triangle CAN$

HW: pg 229 #2,3, 15-18, 33-35 ALL

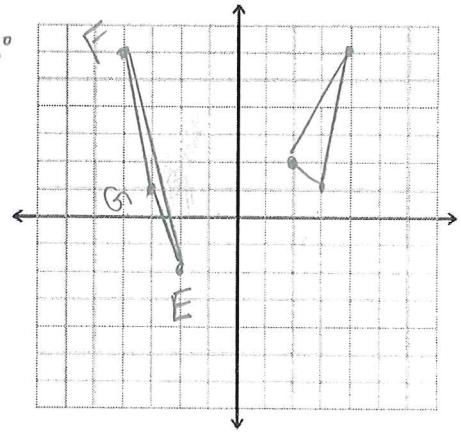


Determine whether $\triangle EFG \cong \triangle MNP$ given the coordinates of the vertices. Explain.

2. $E(-4, -3)$, $F(-2, 1)$, $G(-2, -3)$, $M(4, -3)$, $N(2, 1)$, $P(2, -3)$ $FE = 2\sqrt{5}$ $NM = 2\sqrt{5}$
3. $E(-2, -2)$, $F(-4, 6)$, $G(-3, 1)$, $M(2, 2)$, $N(4, 6)$, $P(3, 1)$

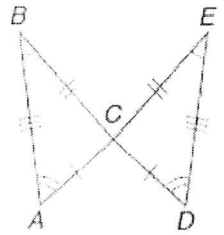
2. Yes, by SSS or by SAS b/c $\angle G \cong \angle P = 90°$

3. HA! No. look how silly that looks!



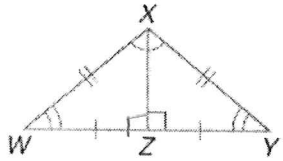
Identify just means to name the congruent triangles.
Identify the congruent triangles in each figure. (Lesson 4-3)

33.



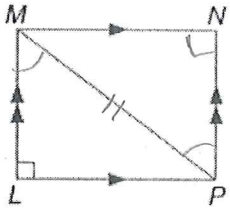
$\triangle ABC \cong \triangle DEC$

34.



$\triangle WZX \cong \triangle YZX$

35.



$\triangle LPM \cong \triangle NMP$

Determine which postulate can be used to prove that the triangles are congruent. If it is not possible to prove that they are congruent, write *not possible*.

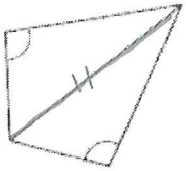
15.

Yes, by SSS or SAS

16.

NO, NO Swearing in math.

17.



NO AS is not enough

18.

Yes, SSS