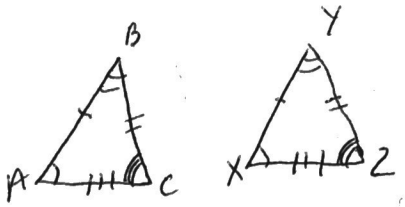
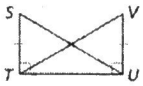
Congruent vs Similar Triangles Review **Name:** 12/17/18

Guided Notes



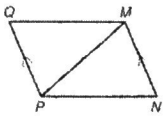
- What type of transformations produce congruent triangles?
  rotations, reflections, translations
- Does the order of a congruence statement matter?
  Yes
- What are the theorems that prove triangles congruent?
  SSS, ASA, SAS, AAS and HL

1. Using the picture determine which of the statements below is correct?



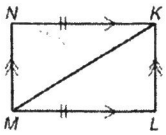
~~A) ΔSTU ≅ ΔVUT, by Reflexive Property of Congruence~~ NO
B) ΔSTU ≅ ΔVUT, by SAS
C) ΔSTU ≅ ΔVUT, by HL
~~D) ΔSTU ≅ ΔVUT, CPCTC~~ NO

2. What additional information is needed to prove $\Delta MNP \cong \Delta PQM$ by AAS?



A) $\angle N \cong \angle Q$ B) $\angle MPN \cong \angle MPQ$
~~C) $MQ \cong PN$~~ ~~D) $MN \cong PQ$~~

3. Which CANNOT be used to prove $\Delta MNK \cong \Delta KLM$?

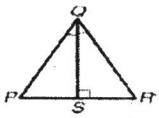


A) SAS B) AAS
C) ASA D) HL

Greg wants to prove that $\Delta WIL \cong \Delta AMS$ by ASA. He Knows that $\overline{IW} \cong \overline{MA}$, and that $\angle I \cong \angle M$. What additional information does he need?

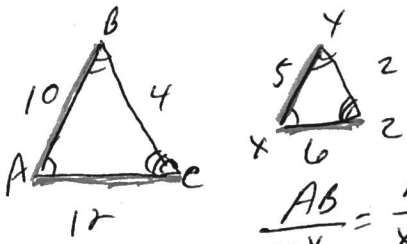
A) $\overline{MS} \cong \overline{IL}$ B) $\overline{WL} \cong \overline{AS}$ C) $\angle S \cong \angle L$ D) $\angle W \cong \angle A$

$\Delta PQS \cong \Delta RQS$ by what theorem?



ASA
$\angle P \cong \angle R$ by CPTC
$\overline{PQ} \cong \overline{QR}$ by CPTC

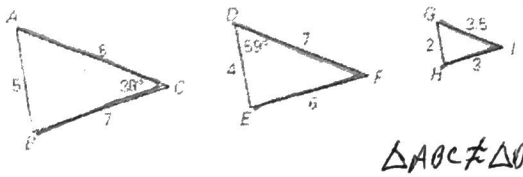
- What type of transformations produce similar triangles?
  dilations
- Does the order of a similarity statement matter?
  YES
- What are the theorems that prove triangles similar?
  SSS, AA (Similarity Postulate), SAS



$\frac{AB}{XY} = \frac{AC}{XZ} = \frac{BC}{YZ}$

SF $= \frac{1}{2}$ or 2

Determine which two of the three given triangles are similar. Find the scale factor for the pair.



$\frac{7}{6} = 1.16$

$\frac{5}{4} = 1.25$

$\frac{8}{7} = 1.14$

$\Delta ABC \not\sim \Delta DFE$

$\Delta ABC \not\sim GHI$

$\frac{5}{2} = 2.5$

$\frac{8}{3.5} = 2.28$

$\frac{7}{3} = 2.3$

$\frac{4}{2} = 2$

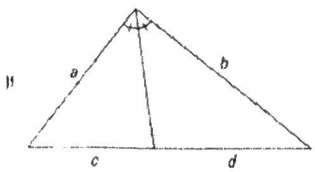
$\frac{7}{3.5} = 2$

$\frac{6}{3} = 2$

$\Delta DFE \approx \Delta GIH$ by SSS~

ANGLE BISECTOR THEOREM

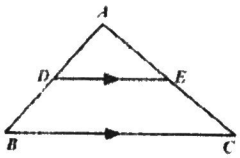
If a ray bisects an angle of a triangle, then it divides the opposite side into segments that are proportional to the other two sides.



If then $\frac{a}{b} = \frac{c}{d}$

TRIANGLE PROPORTIONALITY THEOREM

If a line parallel to one side of a **triangle** intersects the other two sides of the **triangle**, then the line divides these two sides proportionally.



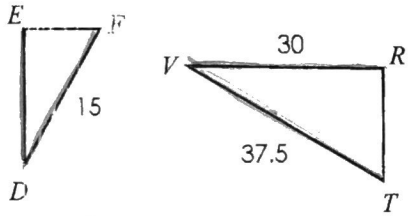
If $\overline{DE} \parallel \overline{BC}$, then $\frac{AD}{DB} = \frac{AE}{EC}$.

GEOMETRY ESCAPE

Challenge C

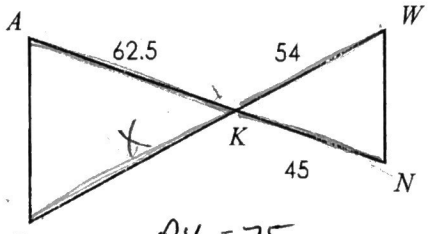
Directions: Solve each problem. Record the answer to each problem in the corresponding row of the puzzle.

a) If $\Delta DEF \sim \Delta VRT$, find DE.



DE=12

b) If $\Delta PAK \sim \Delta WNK$, find PK.

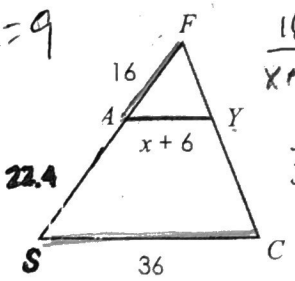


$\frac{62.5}{45} = \frac{x}{54}$

PK=75

c) If $\Delta SFC \sim \Delta AFY$, solve for x.

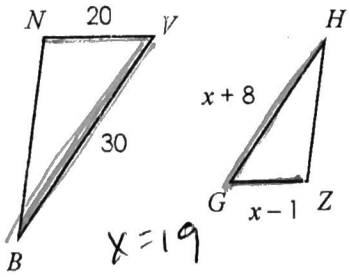
x=9



$\frac{16}{x+6} = \frac{38.4}{36}$

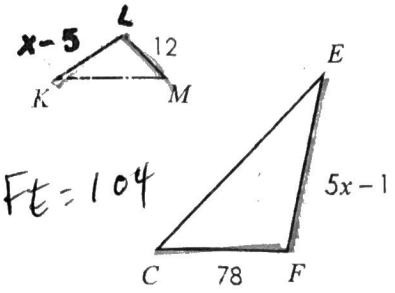
$\frac{16}{38.4} = \frac{x+6}{36}$

d) If $\Delta BNV \sim \Delta HZG$, solve for x.



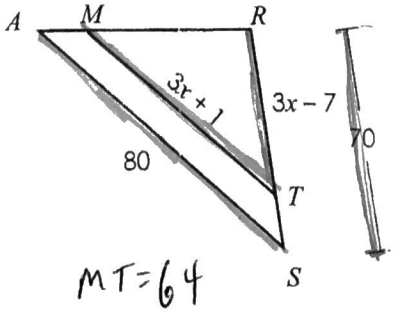
x=19

e) If $\Delta EFC \sim \Delta KLM$, find FE.



FE=104

f) If $\Delta MRT \sim \Delta ARS$, find MT.



MT=64

c1	2	
	b 7	5
	c 9	
	d 1	9
e 1	0	4
f 6	4	

CRACK THE CODE:

The code is the quotient of the number created along the bolded column and 64.

4	3	6	1