Geometry A

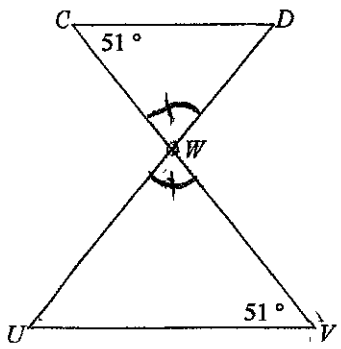
Name KEY

Similar Triangle Practice

Date

State if the triangles in each pair are similar. If so, create a flowchart to show your evidence. Label angles using three vertices. For example; $\angle ABC$ is where B is the vertex (hinge) of the angle. Match up corresponding vertices when naming angles and similar triangles.

1)



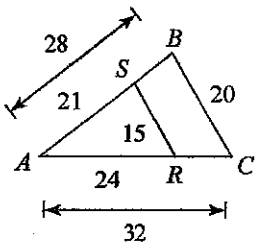
$\angle C = \angle V$

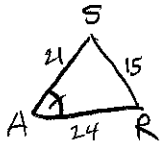
$\angle CWD = \angle VWU$

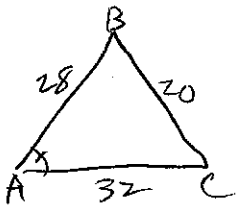
$\triangle CWD \sim \triangle VWU$

AA~

2)







$\frac{32}{24} = 1.\overline{3}$

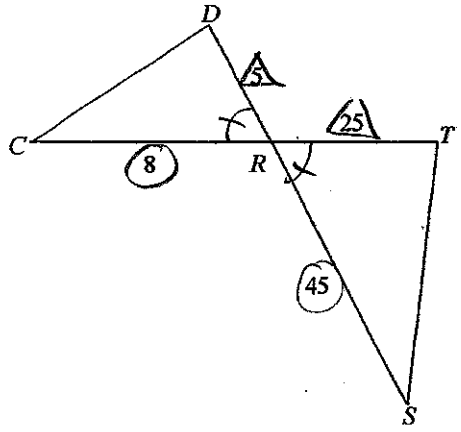
$\frac{20}{15} = 1.\overline{3}$

$\frac{28}{21} = 1.\overline{3}$

$\triangle ASR \sim \triangle ABC$

SSS~

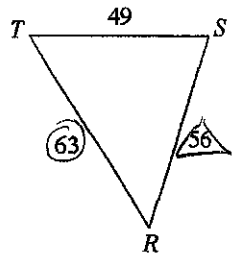
3) [redacted]

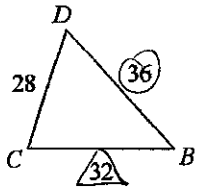


$\frac{45}{8} = 5.625$ $\frac{25}{5} = 5$

Δ's are not similar

4) [redacted]



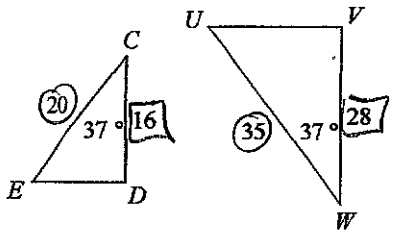


$\frac{63}{36} = 1.75$ $\frac{56}{32} = 1.75$ $\frac{49}{28} = 1.75$

$\Delta SRT \sim \Delta CBD$

SSS~

5) [redacted]

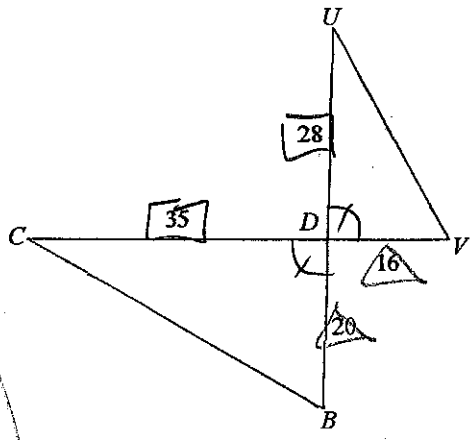


$\frac{35}{20} = 1.75$ $\angle C = \angle W$ $\frac{28}{16} = 1.75$

$\triangle DCE \sim \triangle VWU$

SAS~

6) [redacted]

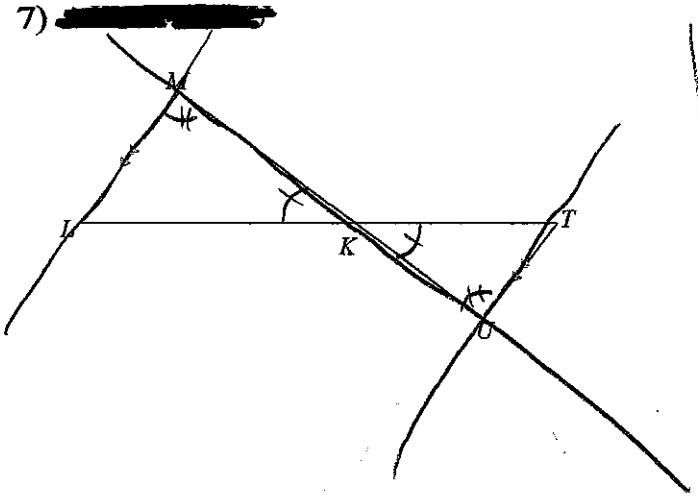


$\frac{35}{28} = 1.25$ $\angle COB = \angle UDV$ $\frac{20}{16} = 1.25$

$\triangle COB \sim \triangle UDV$

SAS~

7) [redacted]



∠U=∠M

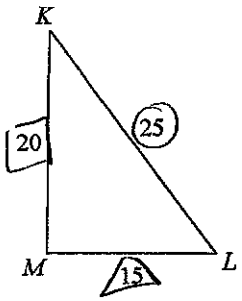
∠MKL=∠UKT

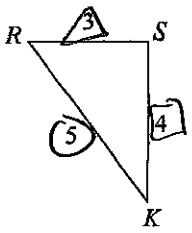
lt interior angles

△MKL~△UKT

AA~

8) [redacted]





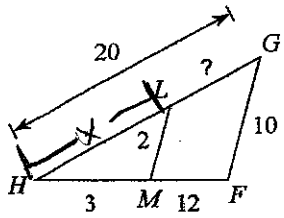
$\frac{25}{5}=5$ $\frac{20}{4}=5$ $\frac{15}{3}=5$

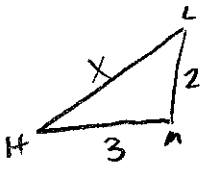
△KML~△KSR

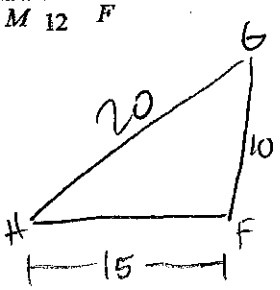
SSS~

Find the missing length. The triangles in each pair are similar.

9)







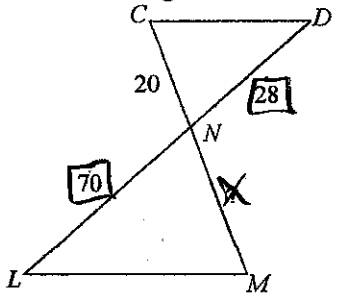
$\frac{15}{3} = \frac{20}{x}$

$x = 4$

$? = 20 - 4$

$= 16$

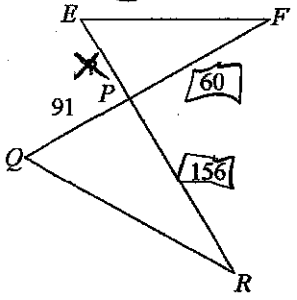
10) $\triangle NCD \sim \triangle NML$



$\frac{70}{28} = \frac{x}{20}$

$x = 50$

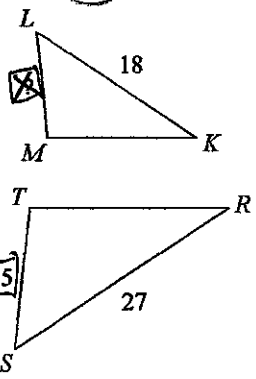
11) $\triangle QPR \sim \triangle EPF$



$\frac{156}{60} = \frac{91}{x}$

$x = 35$

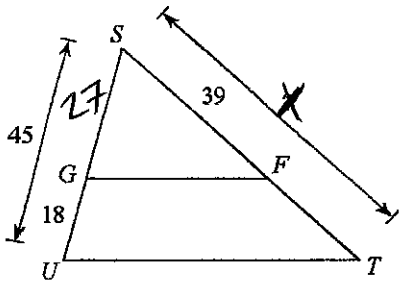
12) $\triangle LMK \sim \triangle STR$



$\frac{27}{18} = \frac{15}{x}$

$x = 10$

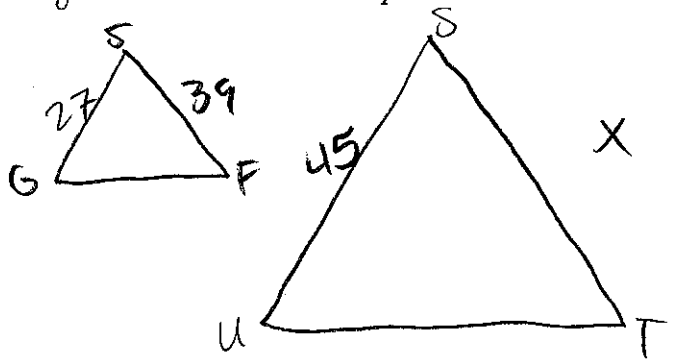
13)



15
18
27

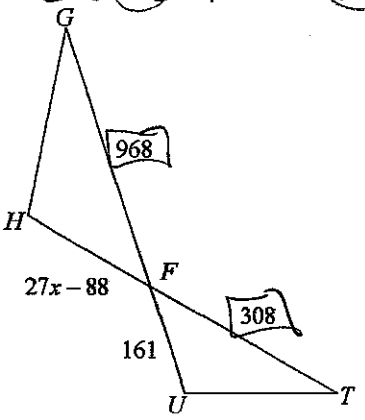
$\frac{45}{27} = \frac{x}{39}$

$x = 65$



Solve for x. The triangles in each pair are similar.

14) $\triangle FGH \sim \triangle FTU$



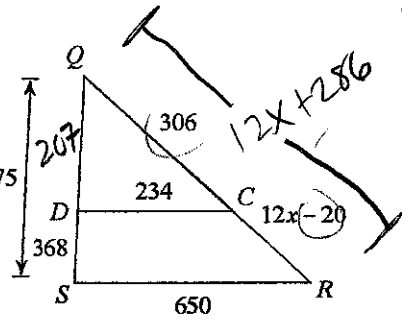
$\frac{968}{308} = \frac{27x-88}{161}$

$155848 = 308(27x-88)$

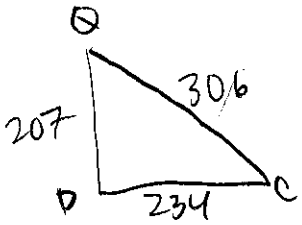
$155848 = 8316x - 27104$

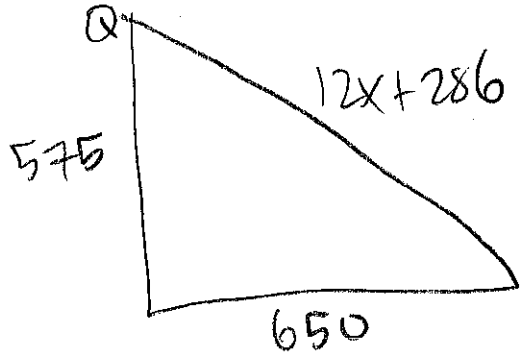
$x = 22$

15)



575
360





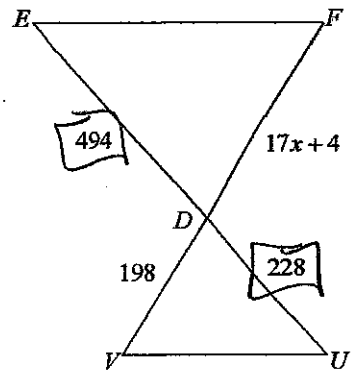
$\frac{575}{207} = \frac{12x+286}{306}$

$175950 = 207(12x+286)$

$175950 = 2484x + 59202$

$x = 47$

16) $\triangle DEF \sim \triangle DUV$



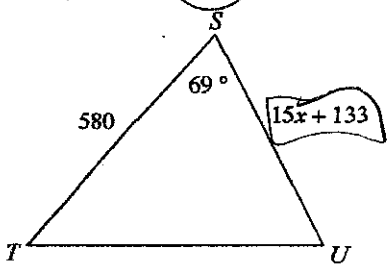
$\frac{494}{228} = \frac{17x+4}{198}$

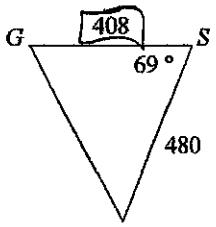
$97812 = 228(17x+4)$

$97812 = 3876x + 912$

$x = 25$

17) $\triangle TSU \sim \triangle FSG$





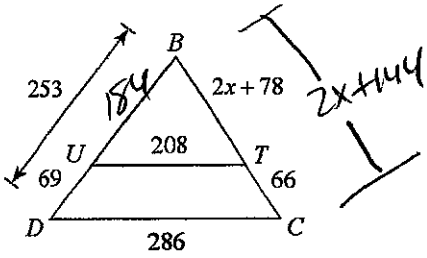
$\frac{15x+133}{408} = \frac{580}{480}$

$236640 = 480(15x+133)$

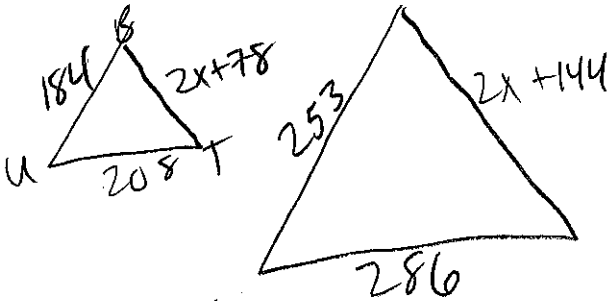
$236640 = 7200x + 63840$

$x = 24$

18)



253
-69



$\frac{286}{208} = \frac{2x+144}{2x+78}$

$286(2x+78) = 208(2x+144)$

$572x + 22308 = 416x + 29952$

$156x = 7644$

$x = 49$