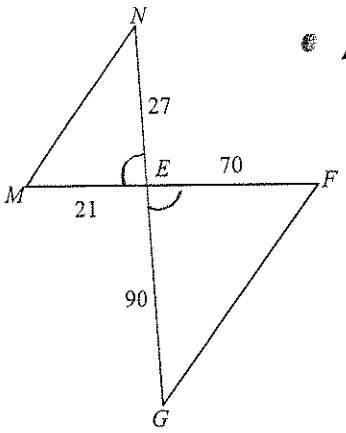
SIMILAR △ THEOREMS

EXAMPLES

State if the triangles in each pair are similar. If so, state how you know they are similar and complete the similarity statement.

1)



△EFG ~ △EMN

similar; SAS similarity

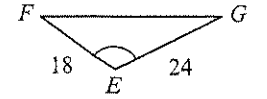
• ∠MEN ≅ ∠FEG (Vert. ∠s are ≅)

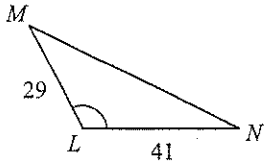
$\frac{21}{70} = \frac{27}{90}$

$\frac{3}{10} = \frac{3}{10}$ ★

• corrs. sides are proportional

2)





△LMN ~ _____

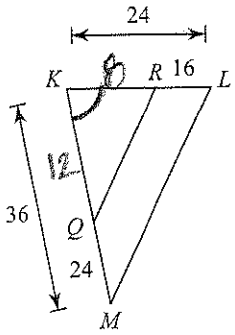
not similar

• ∠F ≅ ∠L

$\frac{18}{29} \neq \frac{24}{41}$

corrs. sides are NOT proportional

3)



△KLM ~ △KRQ

similar; SAS similarity

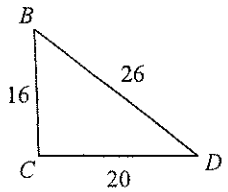
• ∠K ≅ ∠K

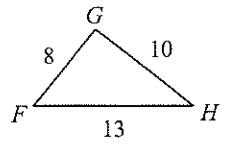
$\frac{8}{24} = \frac{12}{36}$

$\frac{1}{3} = \frac{1}{3}$ ★

corrs sides proportional

4)





△BCD ~ △FGH

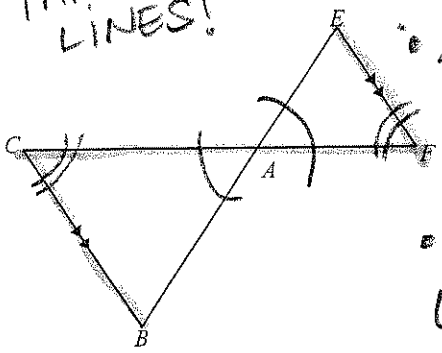
similar; SSS similarity

$\frac{16}{8} = \frac{20}{10} = \frac{26}{13}$

$2 = 2 = 2$

all 3 pairs of corrs. sides are proportional

5) PARALLEL LINES!



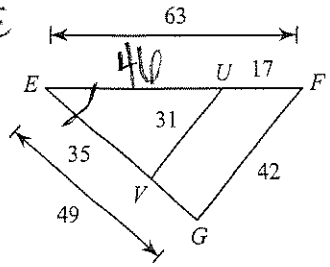
• ∠CAB ≅ ∠FAE Vert. ∠s are ≅

• ∠C ≅ ∠F Alt. int. ∠s are ≅

$\triangle ABC \sim$ △AEF

similar; AA similarity

6)



$\triangle EFG \sim$ _____

not similar

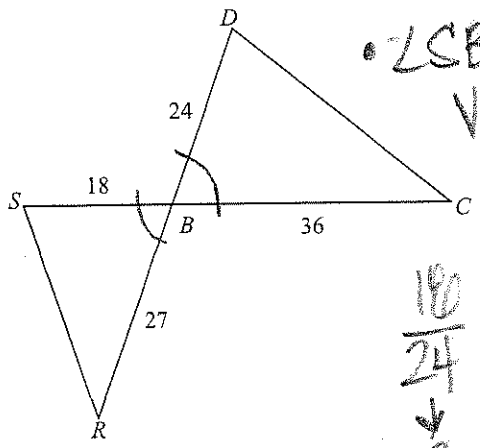
• ∠E ≅ ∠E

$\frac{35}{49} \quad \frac{46}{63}$

$\frac{5}{7} \neq \frac{46}{63}$

Corrs. sides are NOT proportional

7)



• ∠SBR ≅ ∠DBC Vert. ∠s are ≅

$\triangle BCD \sim$ △BRS

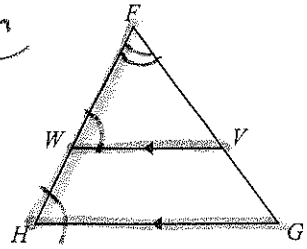
similar; SAS similarity

$\frac{18}{24} \quad \frac{27}{36}$

$\frac{3}{4} = \frac{3}{4}$ ✓

Corrs. sides are proportional

8)



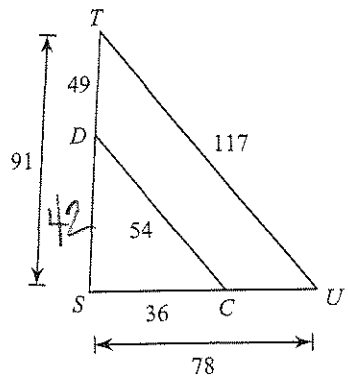
$\triangle FGH \sim$ △FVW

similar; AA similarity

• ∠F ≅ ∠F

• ∠FWV ≅ ∠FHG Corrs. ∠s are ≅

9)



• ∠S ≅ ∠S

$\triangle STU \sim$ △STC

similar; SSS similarity OR SAS

$\frac{36}{78} \quad \frac{42}{91} \quad \frac{54}{117}$

$\frac{6}{13} = \frac{6}{13} = \frac{6}{13}$

Corrs. sides are proportional