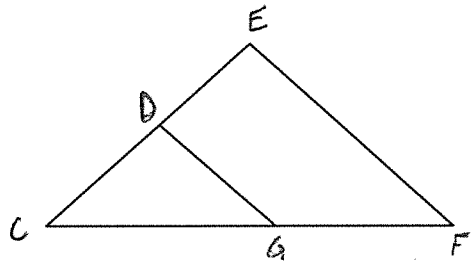
Proving Triangle Similarity - SSS

Unit 4: Similarities

Prove each of the following using an emphasis on the Side-Side-Side (SSS) Similarity Theorem:

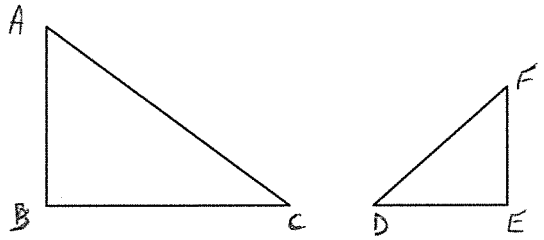
1. **Given:** $\overline{CD} = 15$
   $\overline{DE} = 12$
   $\overline{EF} = 18$
   $\overline{DG} = 10$
   $\overline{CG} = 20$
   $\overline{GF} = 16$

   Prove: Δ DCG ~ Δ ECF



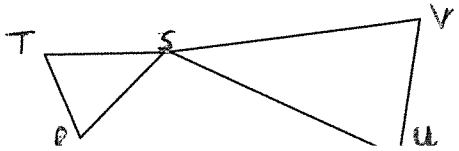
2. **Given:** $\overline{AB} = 40$
   $\overline{BC} = 96$
   $\overline{FD} = 13$
   $\overline{DE} = 12$
   $\overline{AB} \perp \overline{BC}$
   $\overline{FE} \perp \overline{DE}$

   Prove: Δ FDE ~ Δ ACB



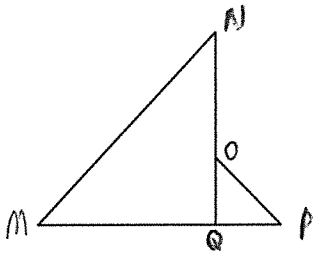
3. **Given:** $\overline{TR} = 7$
   $\overline{TS} = 12$
   $\overline{RS} = 15$
   $\overline{SV} = 37.5$
   $\overline{SU} = 30$
   $\overline{UV} = 17.5$

   Prove: Δ STR ~ Δ SUV



4. **Given:** $\overline{MN}$ = 30
$\overline{MQ}$ = 18
$\overline{OQ}$ = 8
$\overline{OP}$ = 10
$\overline{NQ} \perp \overline{MP}$

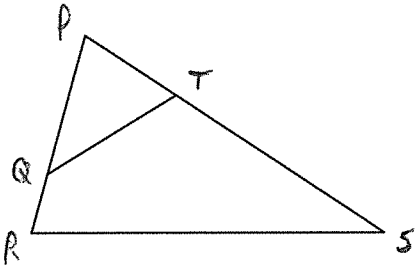
Prove: Δ OQP ~ Δ NQM



Prove each of the following by any means necessary [Including AA and SSS]:

5. **Given:** $\overline{PQ}$ = 6
$\overline{QR}$ = 2
$\overline{RS}$ = 10
$\overline{ST}$ = 8
$\overline{QT}$ = 5
$\overline{PT}$ = 4

Prove: Δ PRS ~ Δ PTQ



6. **Given:** ∠ A = 86°
∠ ABE = 32°
∠ D = 62°

Prove: Δ ACD ~ Δ ABE