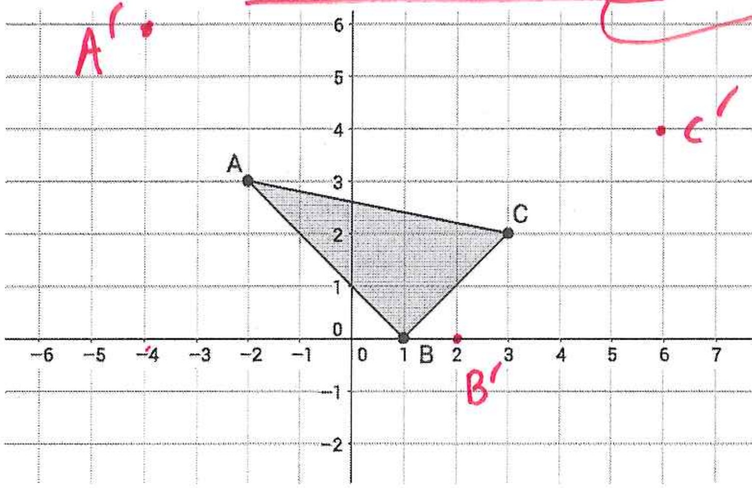
SRT-A1 Last Practice Assessment of 2018!

1. Dilate ΔABC about the origin with scale factor 2 to create $\Delta A'B'C'$.



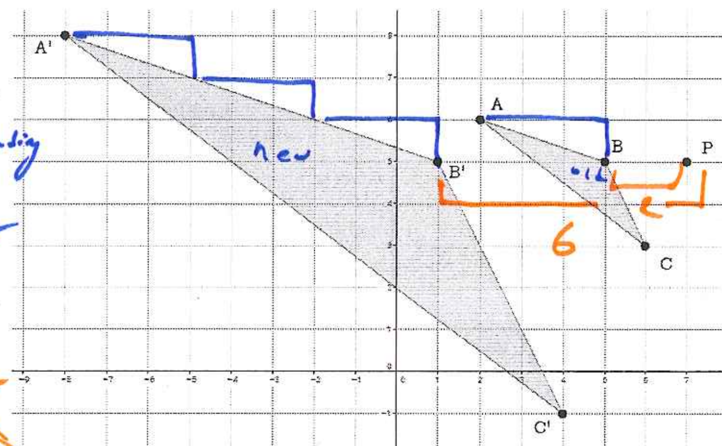
→ Dilate about origin by Multiplying Both x and y coordinates by the Scale factor

A: $(-2,3) \to \times 2 \to A'(-4,6)$

B: $(1,0) \to \times 2 \to B'(2,0)$

C: $(3,2) \to \times 2 \to C'(6,4)$

2. $\Delta A'B'C'$ is a dilation of ΔABC with center of dilation P as shown. What is the scale factor of this dilation?



Method 1: compare lengths of corresponding sides

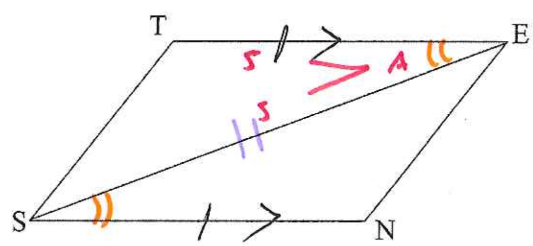
Note that $\overline{A'B'}$ is 3x longer than $\overline{AB}$ → $\boxed{\text{Scale: } 3}$

Method 2: Compare vertices' distances from center of dilation:

$\overline{BP} = 2$ $\quad \overline{B'P}: 6 \to \frac{6}{2} \to 3$

CO-C9P

3. Write a paragraph *or* two-column proof for the proposition.
GIVEN: $\overline{TE} \parallel \overline{NS}, \overline{TE} \cong \overline{NS}$
PROVE: $\overline{TS} \cong \overline{NE}$

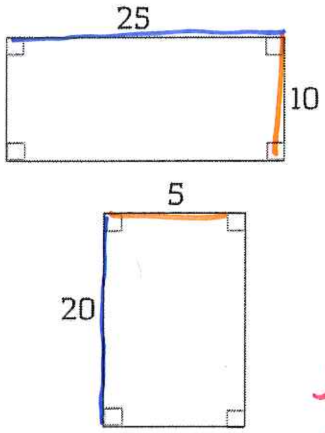


We are given $\overline{TE} \parallel \overline{NS}$ and $\overline{TE} \cong NS$. We wish to prove $\overline{TS} \cong \overline{NE}$. We can observe that $\overline{SE} \cong \overline{ES}$ by the reflexive property. Furthermore, $\angle TES \cong \angle NSE$ because they are alternate interior angles of parallel lines. Thus, $\Delta TES \cong \Delta NSE$ by SAS criterion. Finally, $\overline{TS} \cong \overline{NE}$ by CPCTC. Q.E.D.

See pg 3 for 2 column Solution

See pg 3 for Alternate Approach.

4. Are the figures below similar? Explain why or why not and give numerical justification.



$\frac{25}{20} = 1.25$

$\neq$

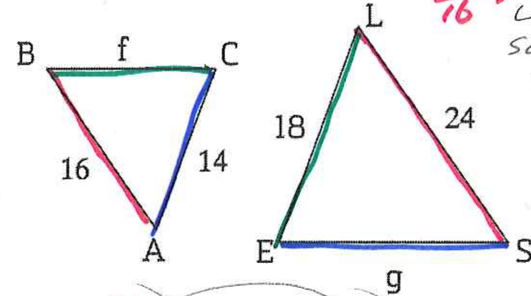
$\frac{10}{5} = 2$

No- The corresponding side lengths are NOT proportional.

key idea

5. Given $\Delta ABC \sim \Delta SLE$. Find the values of f and g.

$\frac{24}{16} = 1.5$ scale factor



$\frac{16}{24} = \frac{f}{18} = \frac{14}{g}$

cross mult

$24f = 288$

$f = \frac{288}{24}$

$\boxed{f = 12}$

$\frac{16}{24} = \frac{14}{g}$

$16g = 336$

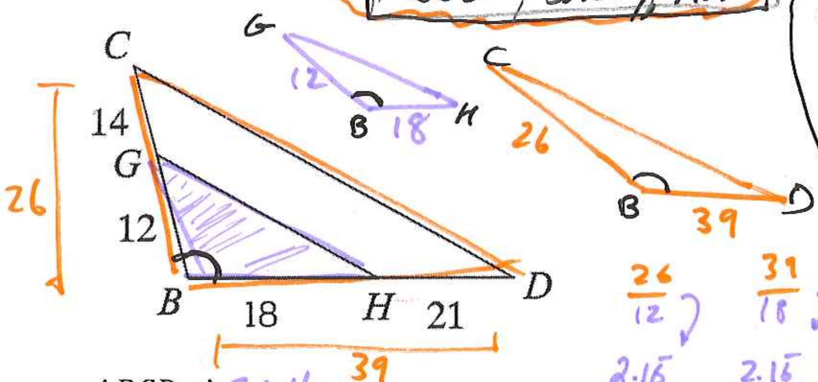
$g = \frac{336}{16}$

$\boxed{g = 21}$

In each pair below, explain why the triangles are similar. Then, complete the similarity statement.

$\boxed{\text{SSS}\sim, \text{SAS}\sim, \text{AA}\sim}$

6.



$\Delta BCD \sim \Delta$ BGH

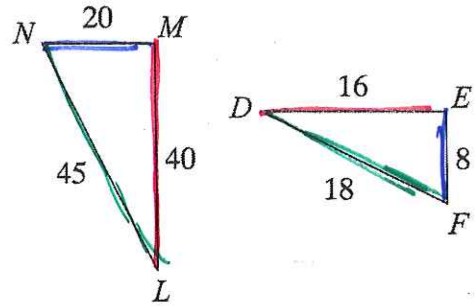
$\frac{26}{12} = 2.1\overline{6}$ $\frac{39}{18} = 2.1\overline{6}$

same proportion

+ $\angle B \cong$

SAS~ $\boxed{\#6}$

7.



$\Delta LMN \sim \Delta DEF$

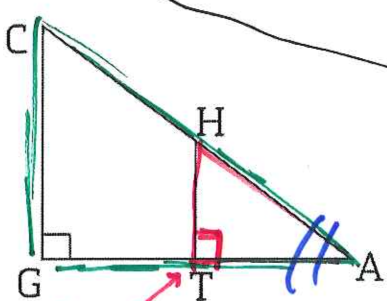
$\frac{20}{8} = 2.5$ =

$\frac{40}{16} = 2.5$ =

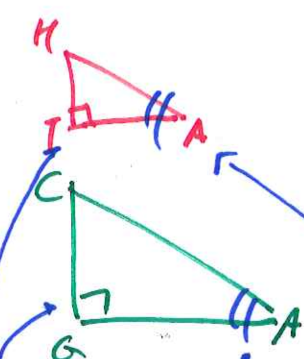
$\frac{45}{18} = 2.5$

All 3 sides in proportion → SSS~ $\boxed{\#7}$

8.



should be there. sorry

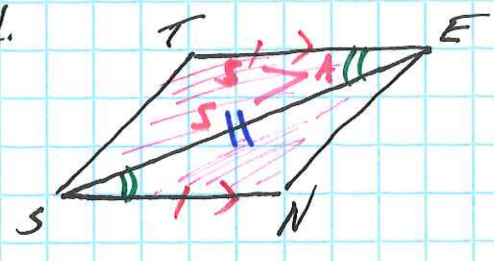


$\Delta HAT \sim \Delta$ CAG

one Angle pair + Shared Angle

$\boxed{\text{AA}\sim}$

#3 2-column method.



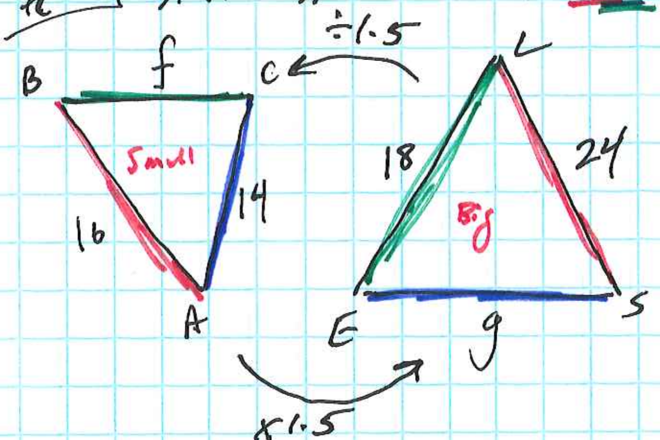
Given: $\overline{TE} \parallel \overline{NS}$, $\overline{TE} \cong \overline{NS}$

Prove: $\overline{TS} \cong \overline{NE}$

Statements	Reasons
1. $\overline{TE} \parallel \overline{NS}$, $\overline{TE} \cong \overline{NS}$	1. Given
2. $\overline{SE} \cong \overline{ES}$	2. Reflexive Property
3. $\angle TES \cong \angle NSE$	3. Alt. Int. Angles.
4. $\triangle SET \cong \triangle ESN$	4. SAS Criterion
5. $\overline{TS} \cong \overline{NE}$	5. CPCTC.

can be switched in their ordering

#5 Alt. method. $\triangle ABC \sim \triangle SLE$



OBSERVE: $\overline{AB}$ and $\overline{SL}$ are both given and correspond to each other

Thus, we can find the scale factor.

$$\frac{24 \text{ (big)}}{16 \text{ (small)}} = \underline{1.5}$$

this means the sides on the big shape are 1.5x those on the small shape.

$14 \times 1.5 = \boxed{21 = g}$

$18 \div 1.5 = \boxed{12 = f}$