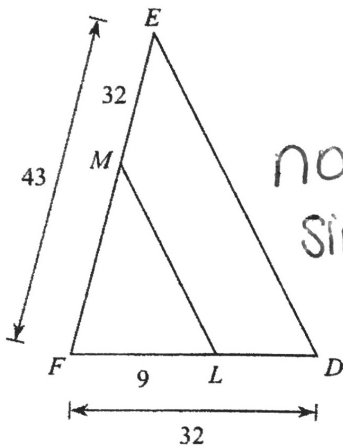


Proving Triangles Congruent and Similar--REVIEW

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

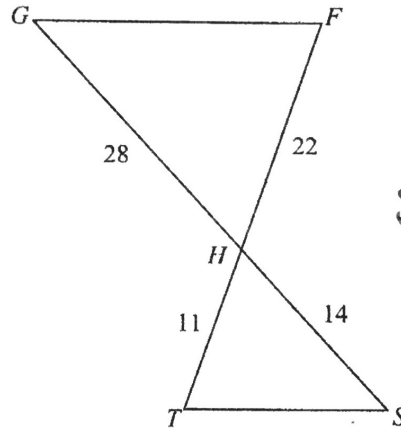
1)



not similar

$\triangle FED \sim$ _____

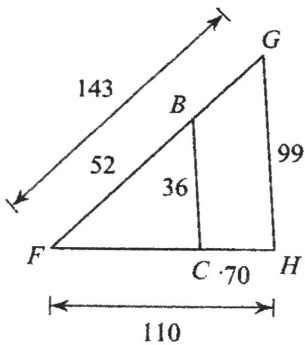
2)



SAS similarity

$\triangle HGF \sim \triangle HST$

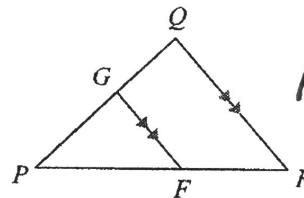
3)



SSS similarity

$\triangle FGH \sim \triangle FBC$

4)

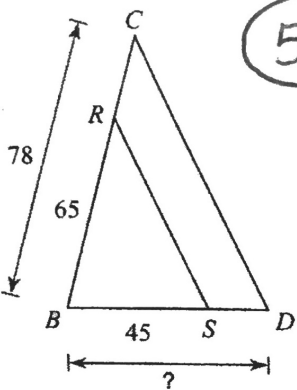


AA similarity

$\triangle PQR \sim \triangle PGF$

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

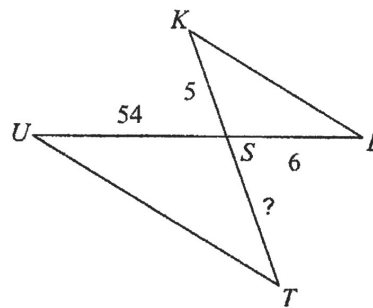
5)



54

$$\frac{45}{x} = \frac{65}{78}$$

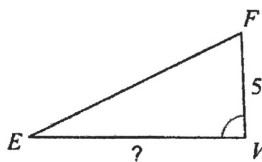
6)



45

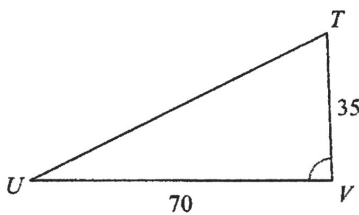
$$\frac{5}{6} = \frac{x}{54}$$

7)

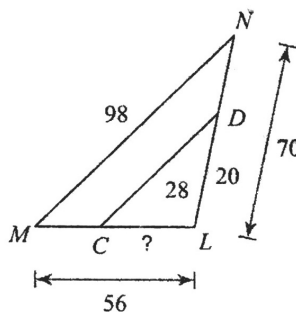


(10)

$$\frac{5}{x} = \frac{35}{70}$$



8)

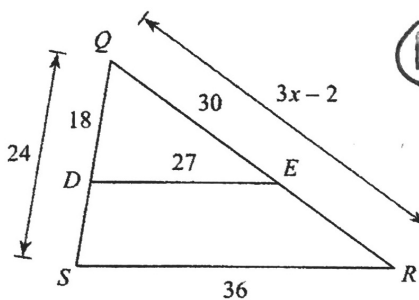


(16)

$$\frac{20}{x} = \frac{70}{56}$$

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

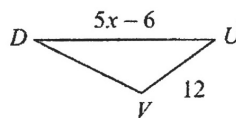
9)



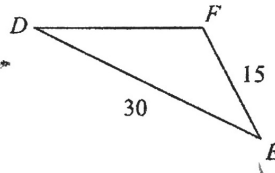
(14)

$$\frac{18}{24} = \frac{30}{3x-2}$$

10)

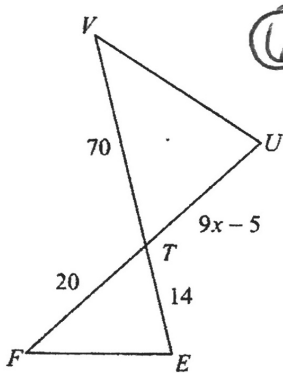


(6)



$$\frac{12}{5x-6} = \frac{15}{30}$$

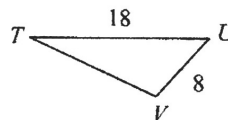
11)



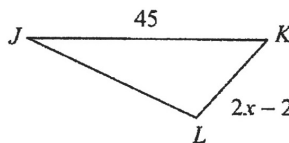
(6)

$$\frac{9x-5}{70} = \frac{14}{20}$$

12)



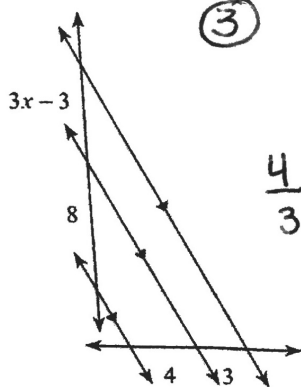
(11)



$$\frac{8}{18} = \frac{2x-2}{45}$$

Solve for x.

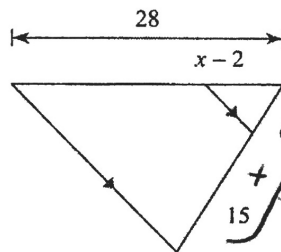
13)



(3)

$$\frac{4}{3} = \frac{8}{3x-3}$$

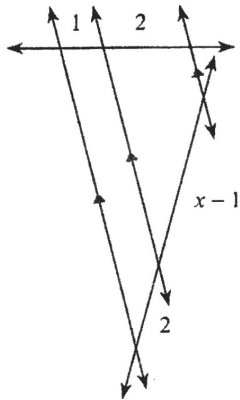
14)



(10)

$$\frac{6}{21} = \frac{x-2}{28}$$

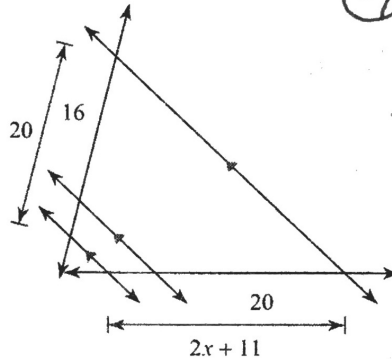
15)



⑤

$$\frac{1}{2} = \frac{2}{x-1}$$

16)



⑦

$$\frac{16}{20} = \frac{20}{2x+11}$$

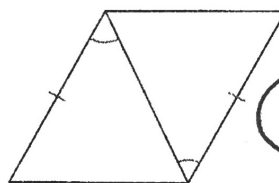
State if the two triangles are congruent. If they are, state how you know.

17)



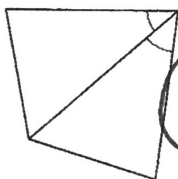
ASA

18)



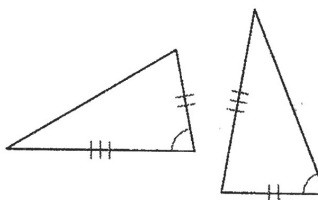
SAS

19)



Not Congruent

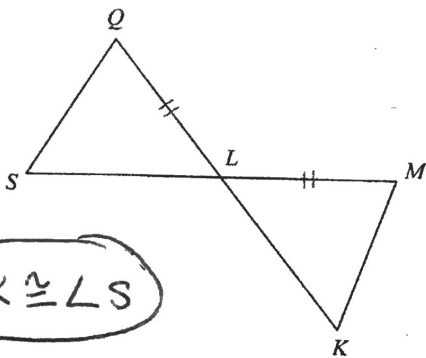
20)



not congruent

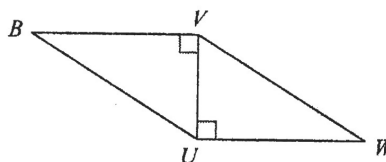
State what additional information is required in order to know that the triangles are congruent for the reason given.

21) AAS



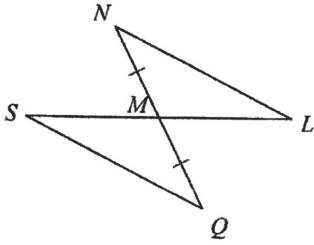
$\angle K \cong \angle S$

22) HL



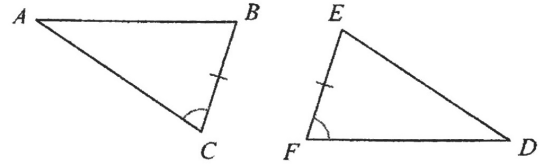
$\overline{VW} \cong \overline{UB}$

23) AAS



$$\angle L \cong \angle S$$

24) ASA



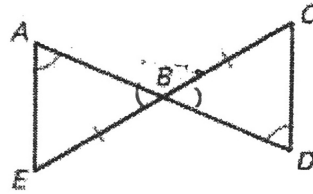
$$\angle B \cong \angle E$$

ACC Coordinate Algebra
Proving Triangles Congruent and Similar--REVIEW

25. Proof Write a proof.

GIVEN: $\overline{BE} \cong \overline{BC}$, $\angle A \cong \angle D$

PROVE: $\triangle ABE \cong \triangle DBC$



Statements

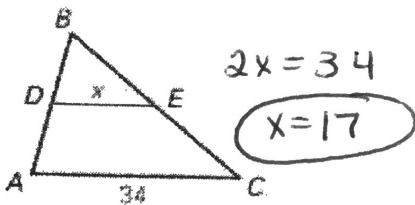
1. $\overline{BE} \cong \overline{BC}$
2. $\angle A \cong \angle D$
3. $\angle ABE \cong \angle CBD$
4. $\triangle ABE \cong \triangle DBC$

Reasons

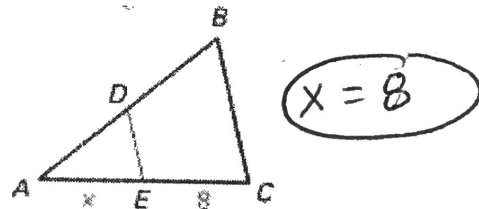
1. Given
2. Given
3. Vert. \angle s Thm
4. AAS

\overline{DE} is the midsegment of $\triangle ABC$. Find the value of x.

26.



27.

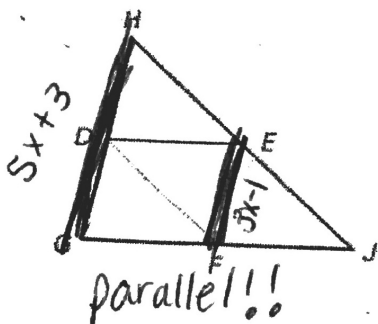


28. Use $\triangle GHJ$ where D, E, and F are midpoints of the sides.

If $\overline{EF} = 3x - 1$ and $\overline{GH} = 5x + 3$, what is EF?

DE cuts \overline{AC} into \cong parts

use midsegment



$$\begin{aligned} 2(3x - 1) &= 5x + 3 \\ 6x - 2 &= 5x + 3 \\ -5x \quad -2 &\quad -5x \quad +3 \\ \hline x &= 5 \end{aligned}$$

$$\begin{aligned} EF &= 3(5) - 1 \\ EF &= 14 \end{aligned}$$