

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

1) **SAS**

$\frac{12}{6} = \frac{6}{3}$
 $2 = 2 \checkmark$

$\angle HFG \cong \angle CFB$ by the vertical \angle 's thm. And the corresponding sides are proportional as shown. Thus, $\triangle FGH \sim \triangle FBC$

$\triangle FGH \sim \triangle FBC$

3) **AA**

It is given that $\angle Q \cong \angle U$ and $\angle P T Q \cong \angle V T U$ by the vertical \angle 's Theorem. Thus $\triangle TUV \sim \triangle TQP$ by AA.

$\triangle TUV \sim \triangle TQP$

5) **SSS**

$\frac{63}{27} = \frac{42}{18} = \frac{35}{15}$
 $2.\bar{3}\bar{3} = 2.\bar{3}\bar{3} = 2.\bar{3}\bar{3}$

The three pair of corresponding sides are proportional. Thus, $\triangle DCB \sim \triangle KLM$ by SSS

$\triangle DCB \sim \triangle KLM$

7) **SSS**

$\frac{44}{11} = \frac{37}{9} = \frac{19}{5}$
 $4 \neq 4.\bar{1} \neq 3.8$

The corresponding sides are not proportional. Thus $\triangle STU \not\sim \triangle GHS$.

$\triangle STU \sim$ _____

2) **SSS**

$\frac{14}{21} = \frac{25}{29} = \frac{20}{39}$
 $0.66 \neq 0.64 \neq 0.619$

The corresponding sides are not proportional as shown. Thus $\triangle UTS \not\sim \triangle LMN$

$\triangle UTS \sim$ _____

4) **SAS**

$\frac{120}{12} = \frac{70}{8}$
 $10 \neq 8.75$

The corresponding sides are not proportional. Thus $\triangle RST \not\sim \triangle RLM$

$\triangle RST \sim$ _____

6) **SSS**

$\frac{60}{18} = \frac{80}{24} = \frac{70}{21}$
 $\frac{18}{3} = \frac{10}{3} = \frac{10}{3} \checkmark$

The three pairs of corresponding sides are proportional. Thus, $\triangle QRS \sim \triangle QUV$ by SSS

$\triangle QRS \sim$ _____

or **SAS**

$\frac{60}{18} = \frac{80}{24}$

The two pairs of corresponding sides are proportional and their included angles $\angle RQS \cong \angle UQV$ by reflexive prop. Thus $\triangle QRS \sim \triangle QUV$ by SAS

8) **SAS**

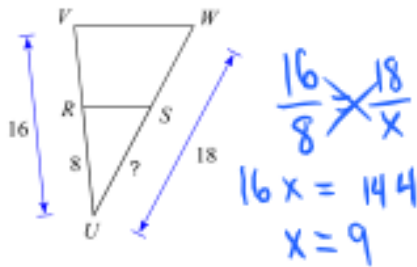
$\frac{81}{45} = \frac{36}{20}$
 $\frac{9}{5} = \frac{9}{5}$

The two pairs of corresponding sides are proportional and their included angles $\angle W F V \cong \angle D F E$ by the reflexive prop. Thus $\triangle F E D \sim \triangle F V W$ by SAS

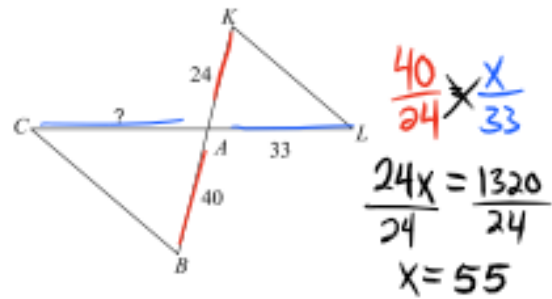
$\triangle F E D \sim$ _____

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

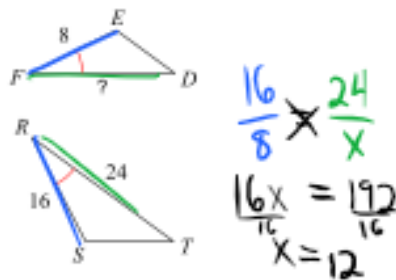
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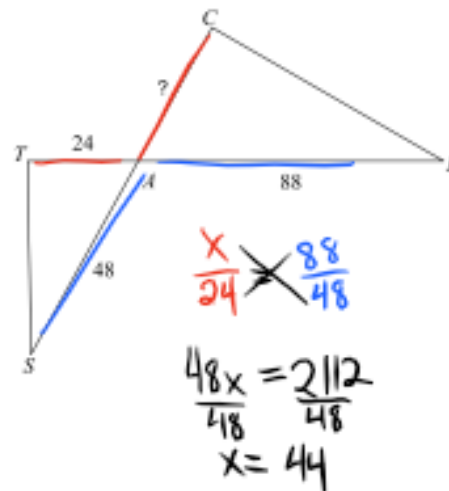
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11)

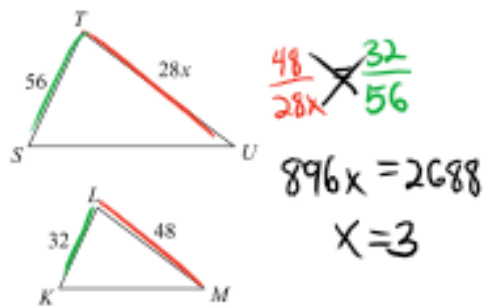


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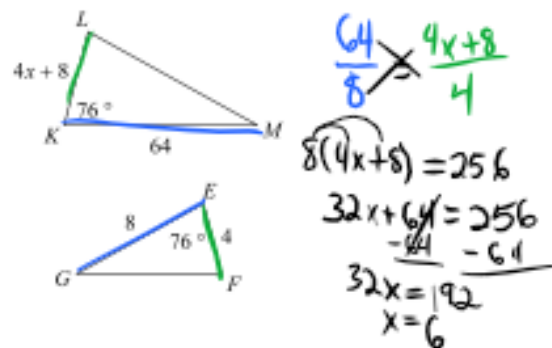


Solve for x. The triangles in each pair are similar.

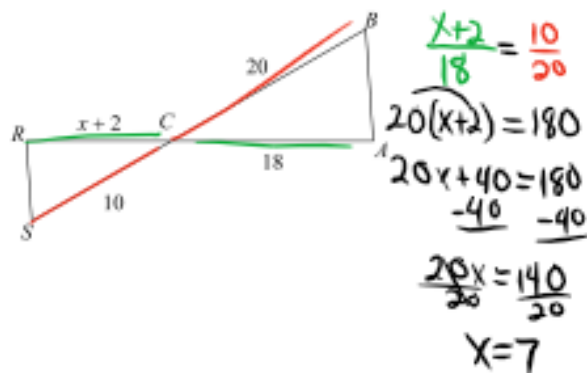
13)



14)



15)



16)

