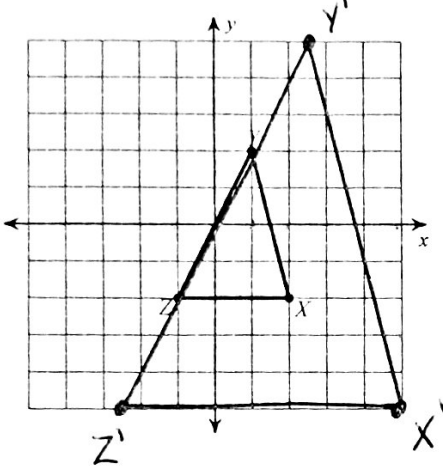


Unit 6 Similarity Review

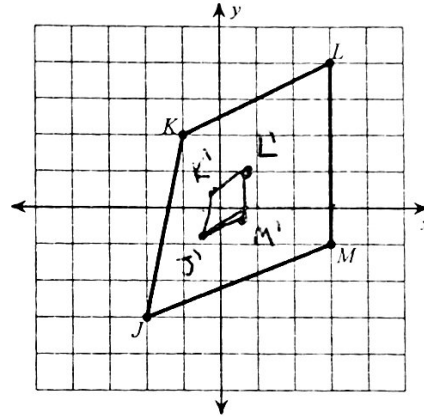
Completion /40

Graph the image of the figure using the transformation given.

1) dilation of 2.5 about the origin

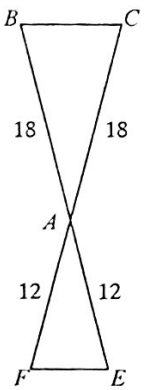


2) dilation of $\frac{1}{4}$ about the origin



Find the scale factor from the first triangle listed to the second. Then state if it is a reduction or an enlargement.

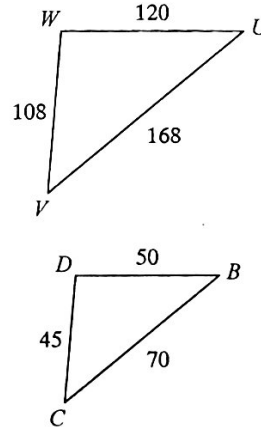
3) $\triangle ABC \sim \triangle AEF$



$$k = \frac{2}{3} = .67$$

Reduction

4) $\triangle UVW \sim \triangle BCD$

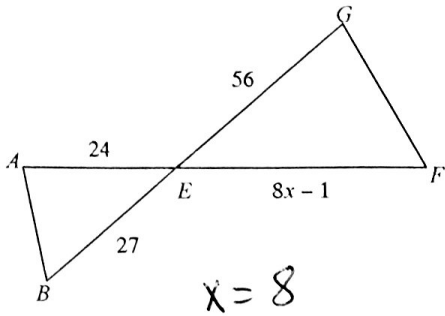


$$k = \frac{5}{12} = .42$$

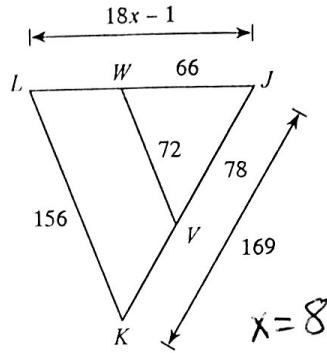
Reduction

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

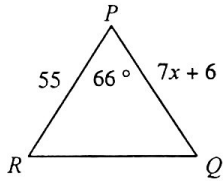
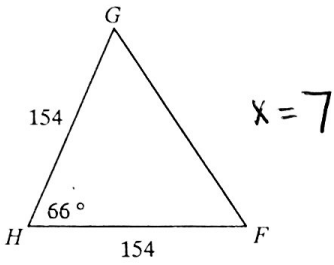
5) $\triangle EFG \sim \triangle EBA$



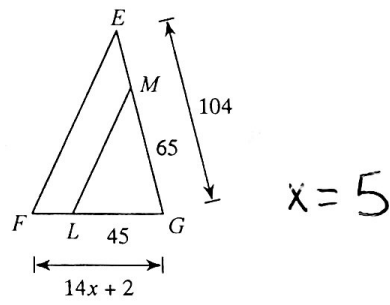
6)



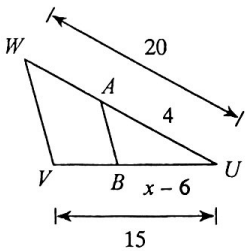
7) $\triangle HGF \sim \triangle PQR$



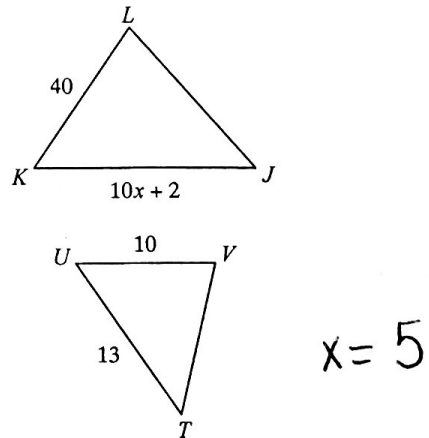
8)



9)

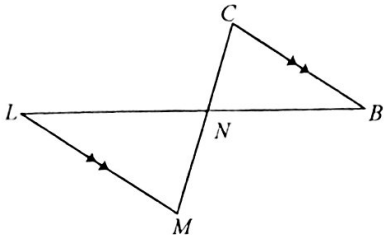


10) $\triangle JKL \sim \triangle TUV$



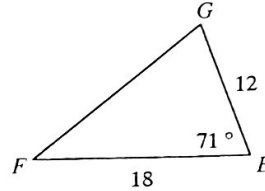
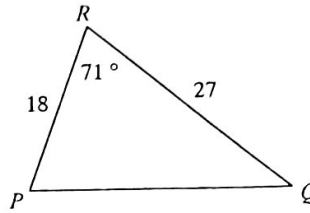
State if the triangles in each pair are similar. If so, state how you know they are similar and complete the similarity statement.

11)



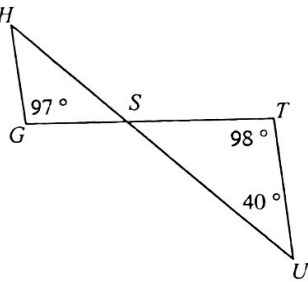
$\triangle NML \sim \triangle CNB$
by AA

12)



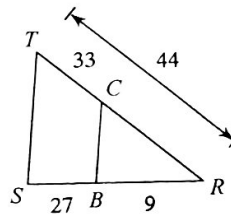
$\triangle RQP \sim \triangle FEG$ by SAS

13)



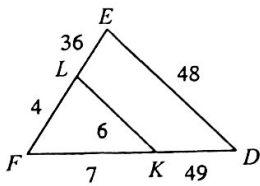
$\triangle STU \sim$ _____ Not similar

14)



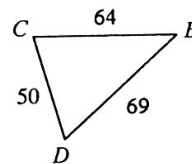
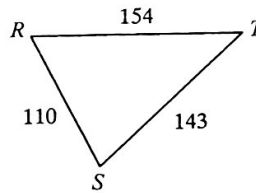
$\triangle RST \sim \triangle RBC$
by SAS

15)



$\triangle FED \sim$ _____
Not similar

16)



$\triangle RST \sim$ _____
Not similar

Describe the following properties:

17) Reflexive

$$a = a$$

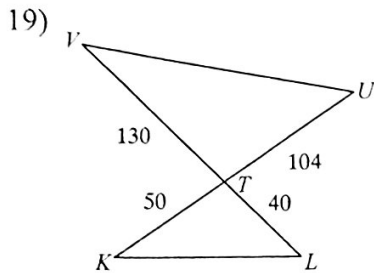
18) Substitution

$$x = 3$$

$$4x = 4(3)$$

Plugging in
equivalent
r values

Write a two-column proof to determine if the two triangles are similar.



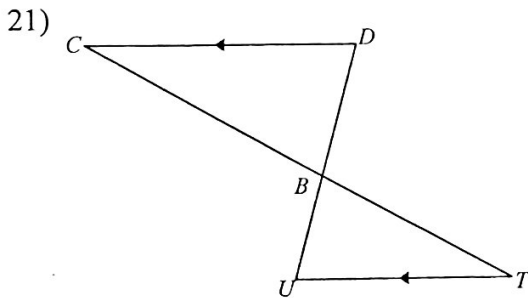
$\Delta TUV \sim$ _____

Statement	Reason
$\angle VTU \cong \angle LTK$	Vertical angles
$\frac{130}{50} = \frac{104}{40}$	Division property
$\frac{VT}{KT} = \frac{UT}{LT}$	Substitution
$\Delta TUV \sim \Delta TLK$	SAS Similarity

20) Use the two-column proof to write a paragraph proof.

We know $\angle VTU \cong \angle LTK$ by vertical angles. And since $\frac{130}{50} = \frac{104}{40}$ by the division property, then $\frac{VT}{KT} = \frac{UT}{LT}$ by substitution. So $\Delta TUV \sim \Delta TLK$ by SAS Similarity.

Write a two-column proof to determine if the two triangles are similar.



$\Delta BCD \sim$ _____

Statement	Reason
$\overline{CD} \parallel \overline{TU}$	Given
$\angle CBD \cong \angle TBU$	Vertical angles
$\angle C \cong \angle T$	Alternate interior angles
$\Delta BCD \sim \Delta BTU$	AA Similarity

22) Use the two-column proof to write a paragraph proof.

It is given that $\overline{CD} \parallel \overline{TU}$. Since $\angle CBD \cong \angle TBU$ by vertical angles, and $\angle C \cong \angle T$ by alternate interior angles, $\Delta BCD \sim \Delta BTU$ by AA Similarity.

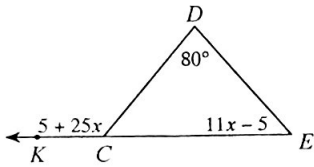
State if the three numbers can be the measures of the sides of a triangle.

23) 6, 7, 7 **Yes**

24) 23, 11, 12 **No**

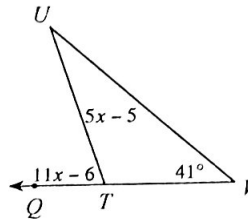
Find the measure of the angle indicated.

25) Find $m\angle KCD$.



130°

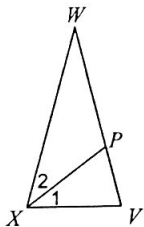
26) Find $m\angle QTV$.



71°

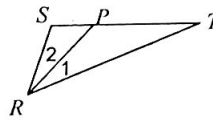
Each figure shows a triangle with one of its angle bisectors.

27) Find $m\angle 1$ if $m\angle 2 = 4x + 6$ and $m\angle 1 = 5x - 2$.



38°

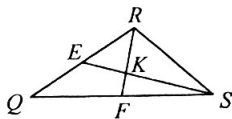
28) $m\angle 2 = 7x - 4$ and $m\angle TRS = 12x$. Find $m\angle TRS$.



48°

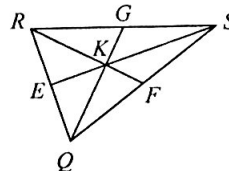
Each figure shows a triangle with one or more of its medians.

29) Find KE if $SK = 2x - 9$ and $SE = \frac{3x}{2}$



$\frac{9}{2}$

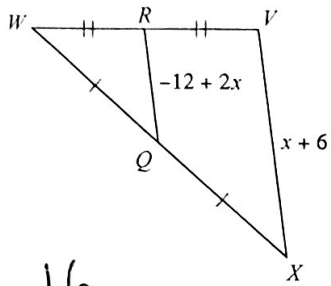
30) Find RF if $RG = -2 + 6x$ and $KF = x + 3$



15

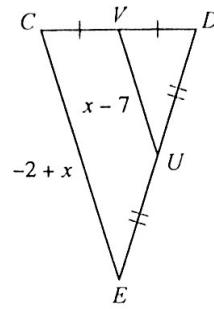
Find the missing length indicated.

31) Find XV



16

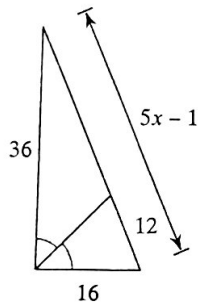
32) Find VU



5

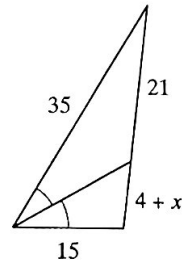
Solve for x .

33)



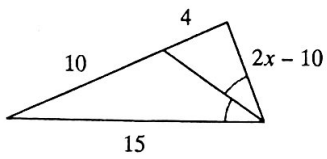
$x = 8$

34)



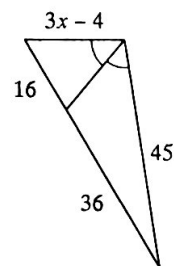
$x = 5$

35)



$x = 8$

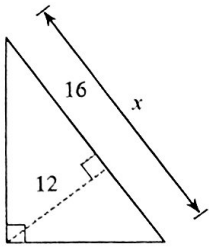
36)



$x = 8$

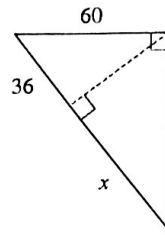
Find the missing length indicated. Leave your answer in simplest radical form.

37)



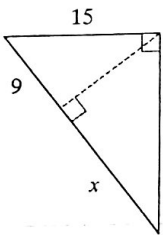
$$x = 25$$

38)



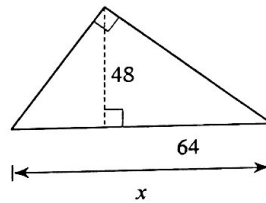
$$x = 64$$

39)



$$x = 16$$

40)



$$x = 100$$