Secondary Math 2 Completion /55

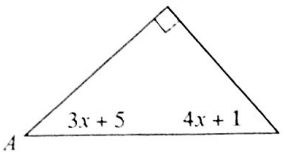
Name Key

Unit 10 Similar Triangles Review

Date_____ Period____

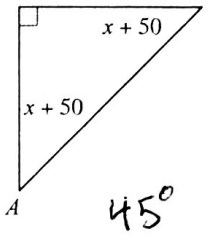
Find the measure of angle A.

1)



41°

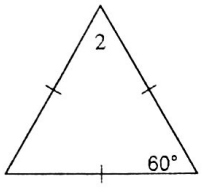
2)



45°

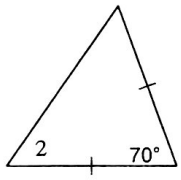
Find the value of x.

3) $m\angle 2 = x + 70$



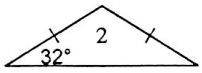
x = -10

4) $m\angle 2 = x + 65$



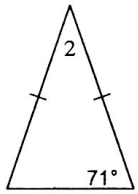
x = -10

5) $m\angle 2 = 17x - 3$



x = 7

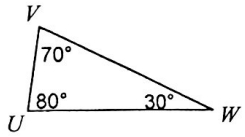
6) $m\angle 2 = x + 47$



x = -9

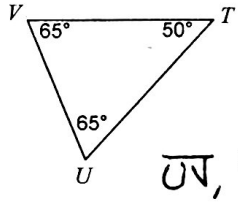
Order the sides of each triangle from shortest to longest.

7)



$\overline{UV}$, $\overline{UW}$, $\overline{VW}$

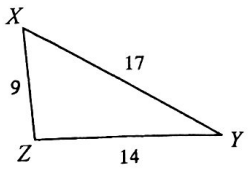
8)



$\overline{UV}$, $\overline{TV} \cong \overline{TU}$

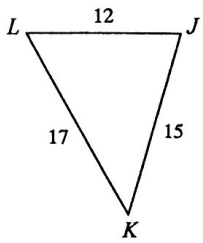
Order the angles in each triangle from smallest to largest.

9)



$\angle Y$, $\angle X$, $\angle Z$

10)



$\angle K$, $\angle L$, $\angle J$

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

11) 6, 3, 11

No

12) 11, 3, 12

Yes

13) 14, 9, 6

Yes

14) 9, 15, 9

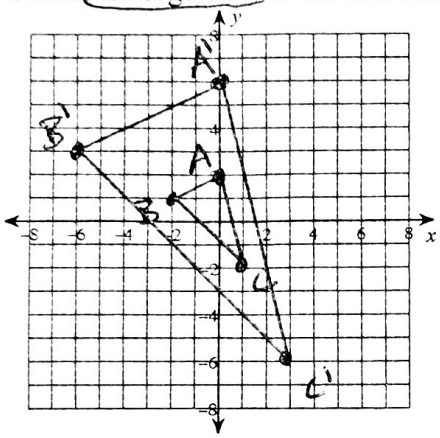
Yes

Plot the coordiates. Then dilate by the given scale factor and list the new coordinates.

15) A(0,2) B(-2,1) C(1,-2), k=3

A':(0,6) B': (-6,3) C': (3,-6)

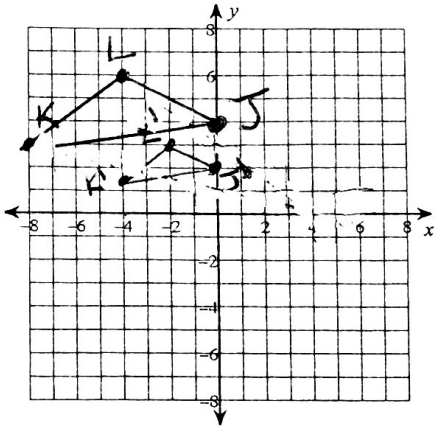
Circle: Enlargement or Reducation



16) J(0,4) K(-8,3) L(-4,6), k=0.5

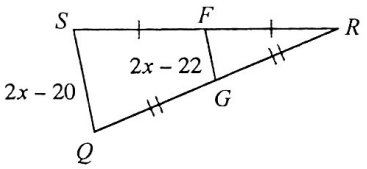
J':(0,2) K':(-4,1.5) L':(-2,3)

Circle: Enlargement or Reducation



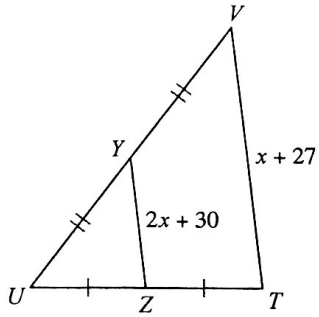
Solve for *x*.

17)



x = 12

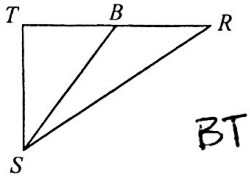
18)



x = -11

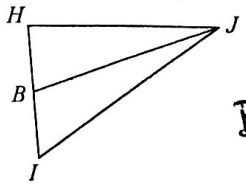
Each figure shows a triangle with one or more of its medians.

19) Find *BT* if *RT* = 24



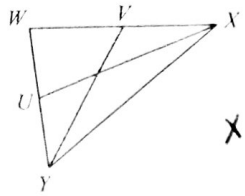
BT = 12

20) Find *BH* if *BI* = 12



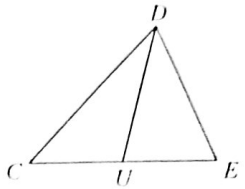
BH = 12

21) Find x if $WY = 3x$ and $UY = x + 4$



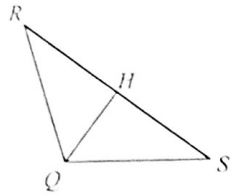
$x = 8$

22) Find x if $CE = 3x + 9$ and $UE = x + 7$



$x = 5$

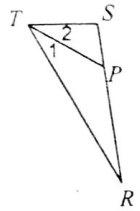
23) Find SR if $HR = 2x - 11$ and $HS = x - 5$



$SR = 2$

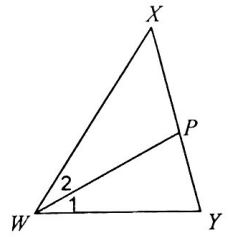
Each figure shows a triangle with one of its angle bisectors.

24) Find $m\angle RTS$ if $m\angle 1 = 30°$.



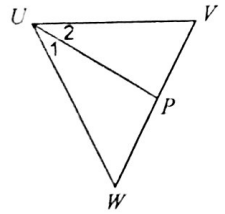
$60°$

25) $m\angle 2 = 29°$. Find $m\angle 1$.



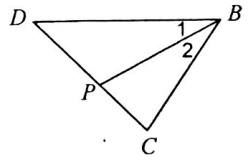
$29°$

26) $m\angle 2 = 5x + 2$ and $m\angle WUV = 9x + 10$. Find x.



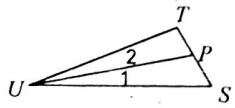
$x = 6$

27) $m\angle 1 = 4 + 8x$ and $m\angle 2 = 9x + 1$. Find x.



$x = 3$

28) Find $m\angle SUT$ if $m\angle 2 = x + 6$ and $m\angle 1 = 3x - 4$.



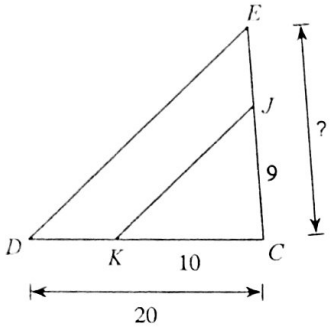
$22°$

29) You are 163cm tall. You cast a shadow that is 100cm long. How tall is the building next to you that casts a 640cm shadow?

1043.2 cm

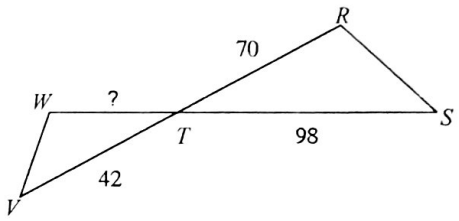
Find the missing length. The triangles in each pair are similar.

30)



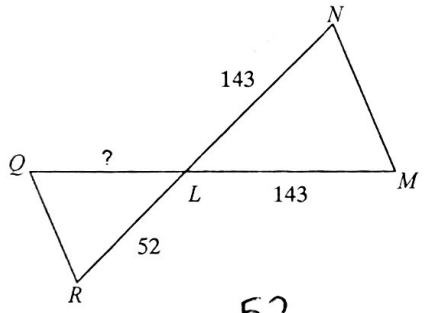
18

31) $\triangle TSR \sim \triangle TVW$



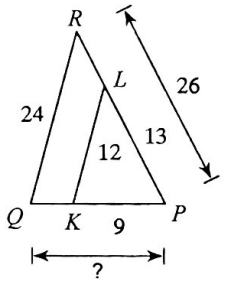
30

32) $\triangle LMN \sim \triangle LRQ$



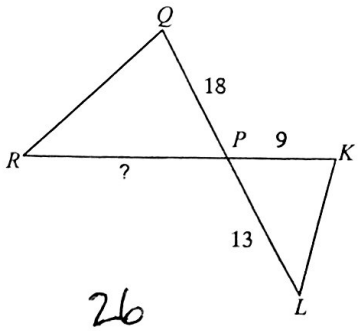
52

33)



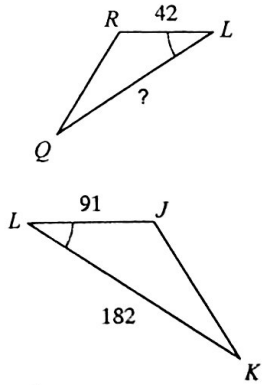
18

34) $\triangle PQR \sim \triangle PKL$



26

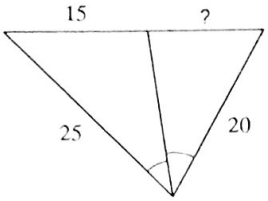
35) $\triangle LKJ \sim \triangle LQR$



84

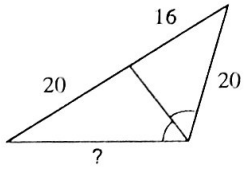
Find the missing length indicated.

36)



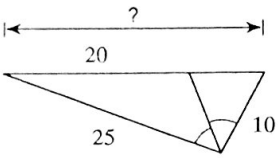
12

37)



25

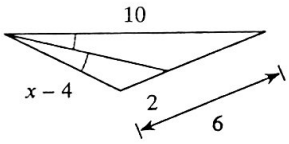
38)



28

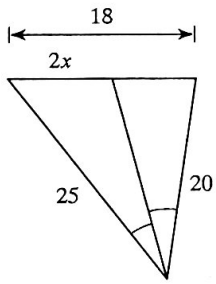
Solve for x.

39)



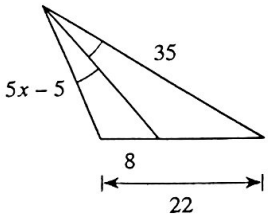
$x = 9$

40)



$x = 5$

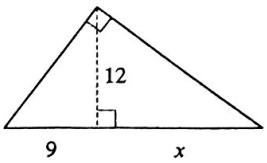
41)



$x = 5$

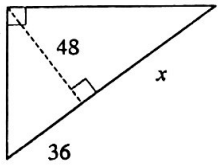
Find the missing length indicated. Leave your answer in simplest radical form.

42)



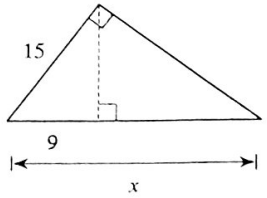
$x = 16$

43)



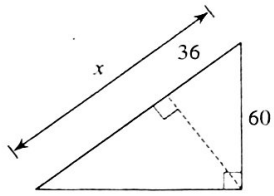
$x = 64$

44)



x = 25

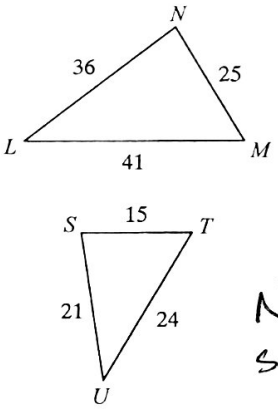
45)



x = 100

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

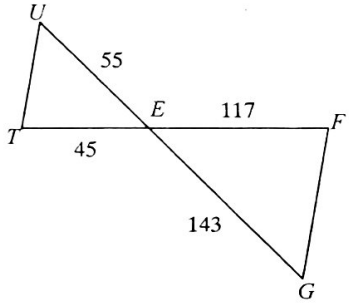
46)



Not similar

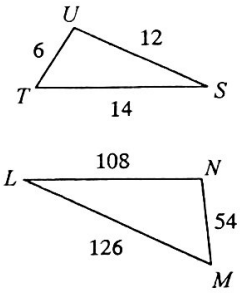
$\Delta NML \sim$ _____

47)



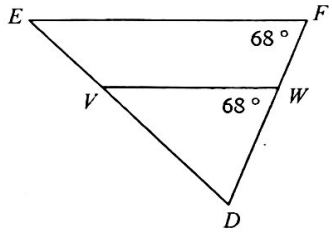
$\Delta EFG \sim$ ΔETU by SAS

48)



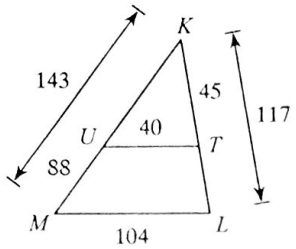
$\Delta LMN \sim$ ΔSTU by SSS

49)



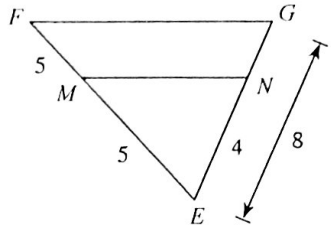
$\Delta DEF \sim$ ΔDVW by AA

50)



$\triangle KLM \sim$ $\triangle KTU$ by SSS
or by SAS

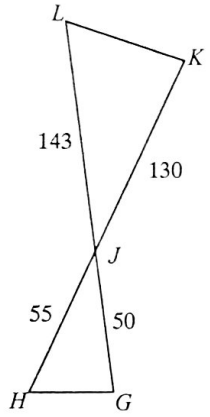
51)



$\triangle EFG \sim$ $\triangle EMN$ by SAS

Write a two-proof to show the two triangles are similar.

52)



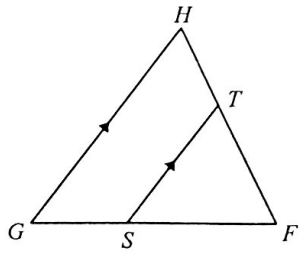
$\triangle JKL \sim$ _____

53)

Statement	Reason
$\angle LJK \cong \angle HJG$	Vertical angles
$\frac{143}{55} = \frac{130}{50}$	Division property
$\frac{LJ}{HJ} = \frac{KJ}{GJ}$	Substitution property
$\triangle JKL \sim \triangle JGH$	SAS Similarity

Write a two-proof to show the two triangles are similar.

54)



$\triangle FGH \sim$ _____

55)

Statement	Reason
$\overline{GH}$ is parallel to $\overline{ST}$	Given
$\angle F \cong \angle F$	Reflexive property
$\angle FGH \cong \angle FST$	Corresponding angles
$\triangle FGH \sim \triangle FST$	AA Similarity