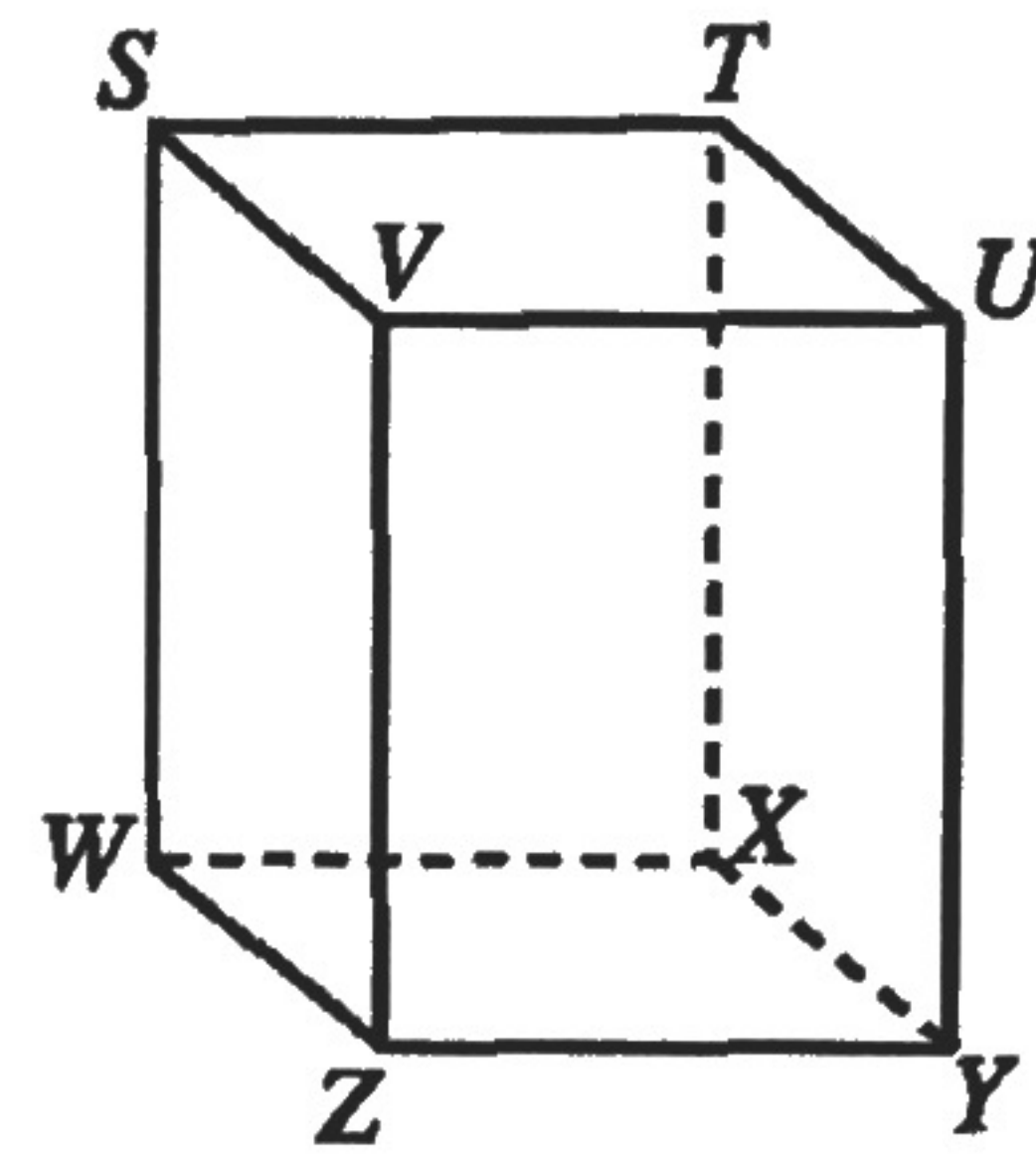


# CCM2 Tools of Geometry Review

Name: Key

Use the figure below to answer the following questions:

True or False:



1. S, V, Y are coplanar True
2. S, T, W, Y are coplanar False
3.  $\overrightarrow{SW}$  and  $\overrightarrow{WS}$  are the same ray False
4. Points V and X are collinear True
5. The fourth point in SVY is Z. False
6. What is the intersection of plane TUY and plane VZU?  
UY

7. If  $EF=2x-12$ ,  $FG=3x-15$ , and  $EG=23$ , find the values of  $x$ ,  $EF$ ,  $FG$ .

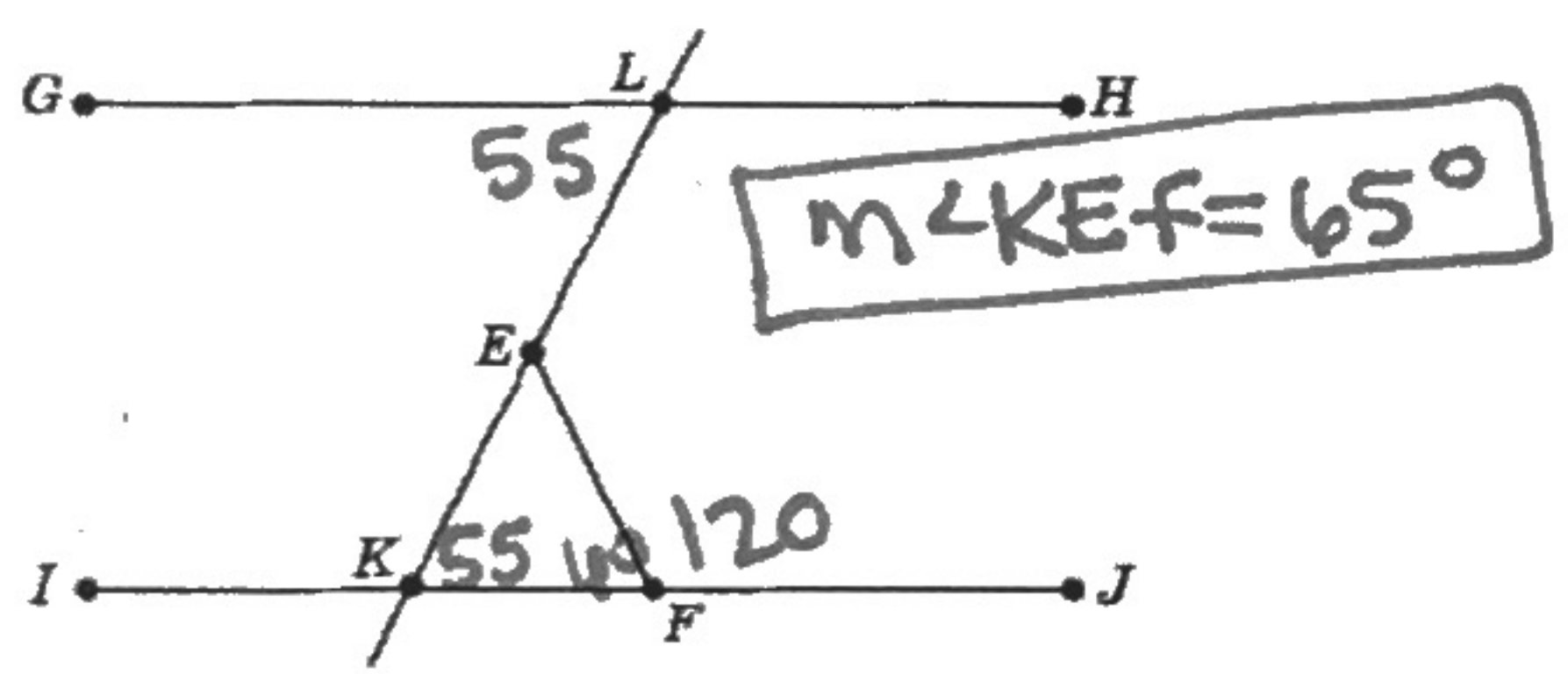
$x=10$   
 $EF=8$   
 $FG=15$

$2x-12+3x-15=23$   
 $5x-27=23$   
 $5x=50$

8.  $\overline{BD}$  bisects  $\angle ABC$ .  $m\angle ABC = 9x$ ,  $m\angle ABD = 3x + 18$ . Find  $m\angle DBC$ .

$x=12$   
 $2(3x+18) = 9x$   
 $6x+36 = 9x$   
 $36 = 3x$   
 $m\angle DBC = 51$

9. In the diagram,  $\overline{GH} \parallel \overline{IJ}$ . If  $m\angle GLK = 55$  and  $m\angle EFJ = 120$ , what is  $m\angle KEF$ ?



10. In triangle ABC,  $m\angle A = x + 30$ ,  $m\angle B = 3x - 10$ , and  $m\angle C = 2x + 70$ . Find  $x$ ,  $m\angle A$ ,  $m\angle B$ , and  $m\angle C$ .

$x+30 + 3x-10 + 2x+70 = 180$   
 $6x+90 = 180$   
 $6x = 90$   
 $x = 15$

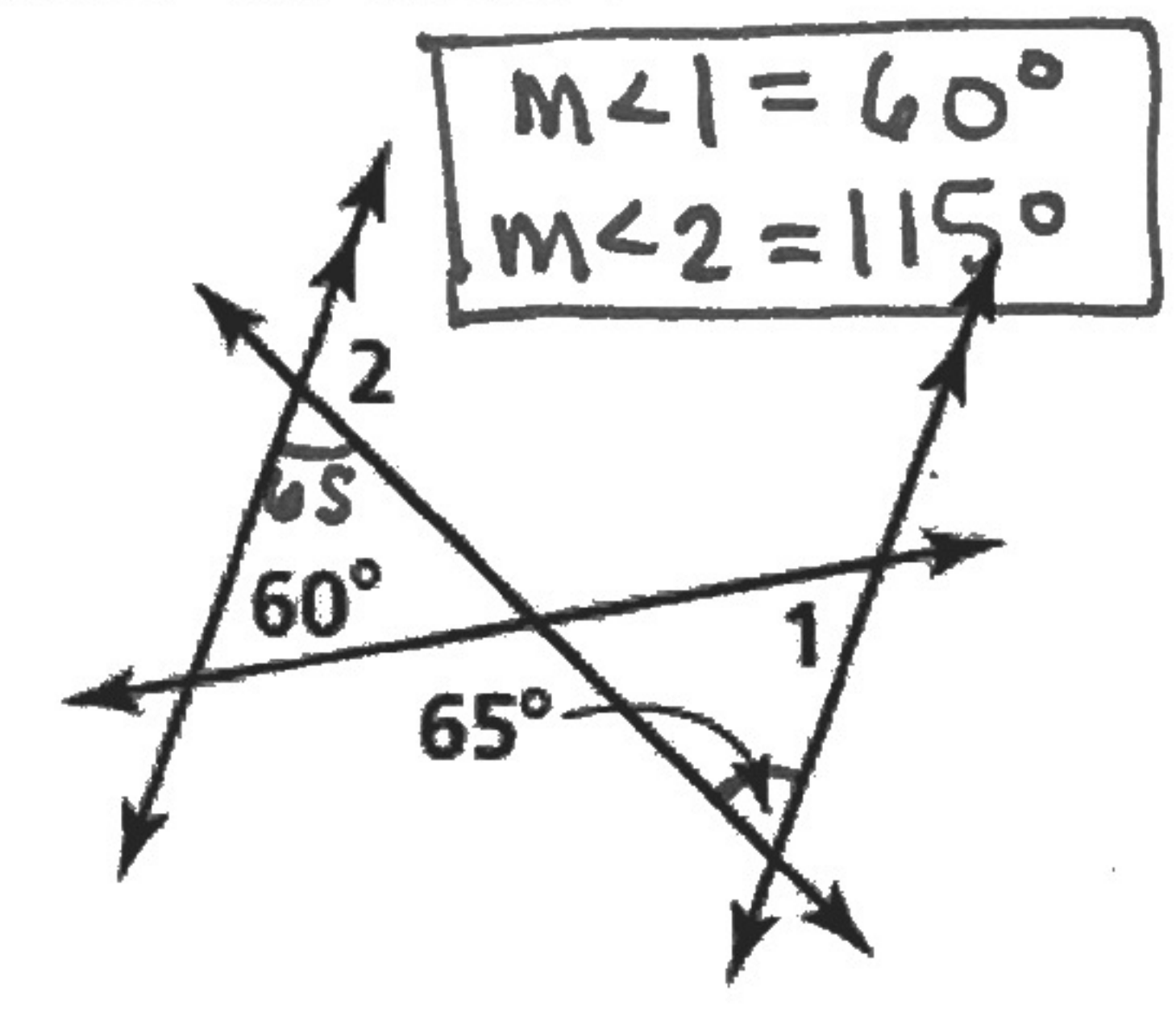
$m\angle A = 45^\circ$   
 $m\angle B = 35^\circ$   
 $m\angle C = 100^\circ$

11.  $\angle XYZ$  shown below has a measure of  $(8x + 12)^\circ$ . The measure of  $\angle 1$  is  $(4x + 8)^\circ$ , and the measure of  $\angle 2$  is  $(9x - 11)^\circ$ . What is the measure of  $\angle XYZ$ ?

$8x+12 = 4x+8 + 9x-11$   
 $8x+12 = 13x-3$   
 $15 = 5x$   
 $x = 3$

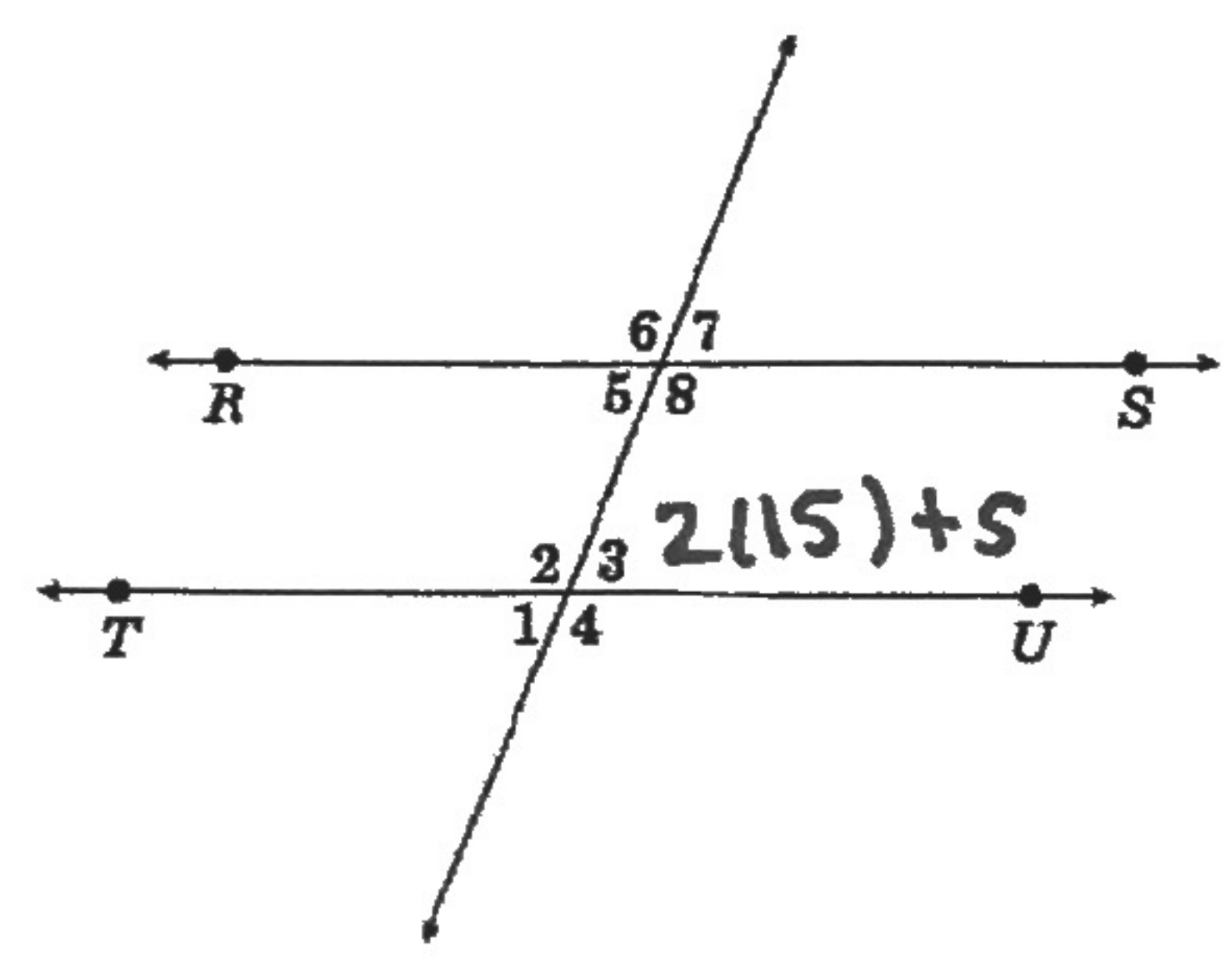
$m\angle XYZ = 8(3) + 12$   
 $m\angle XYZ = 36$

12. Find  $m\angle 1$  and  $m\angle 2$ .

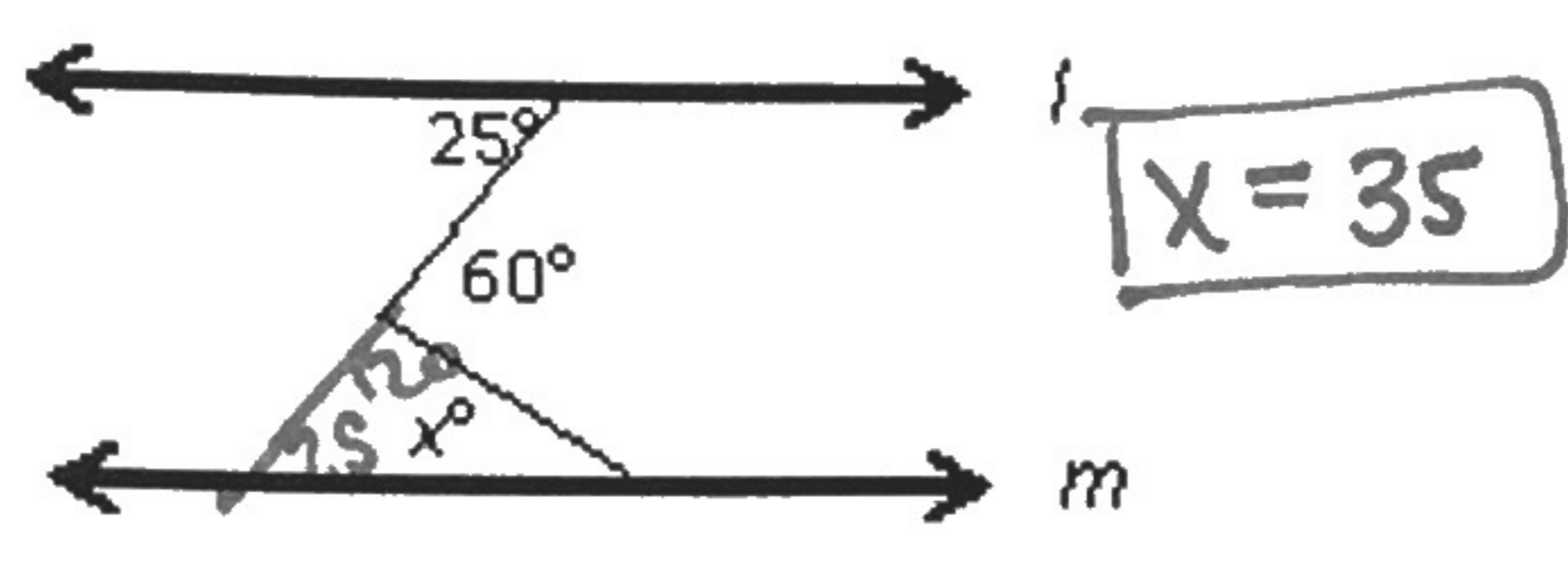


13. Given  $\overline{RS} \parallel \overline{TU}$ ,  $m\angle 7 = (3x - 10)$ , and  $m\angle 3 = (2x + 5)$ . What is  $m\angle 1$ ?

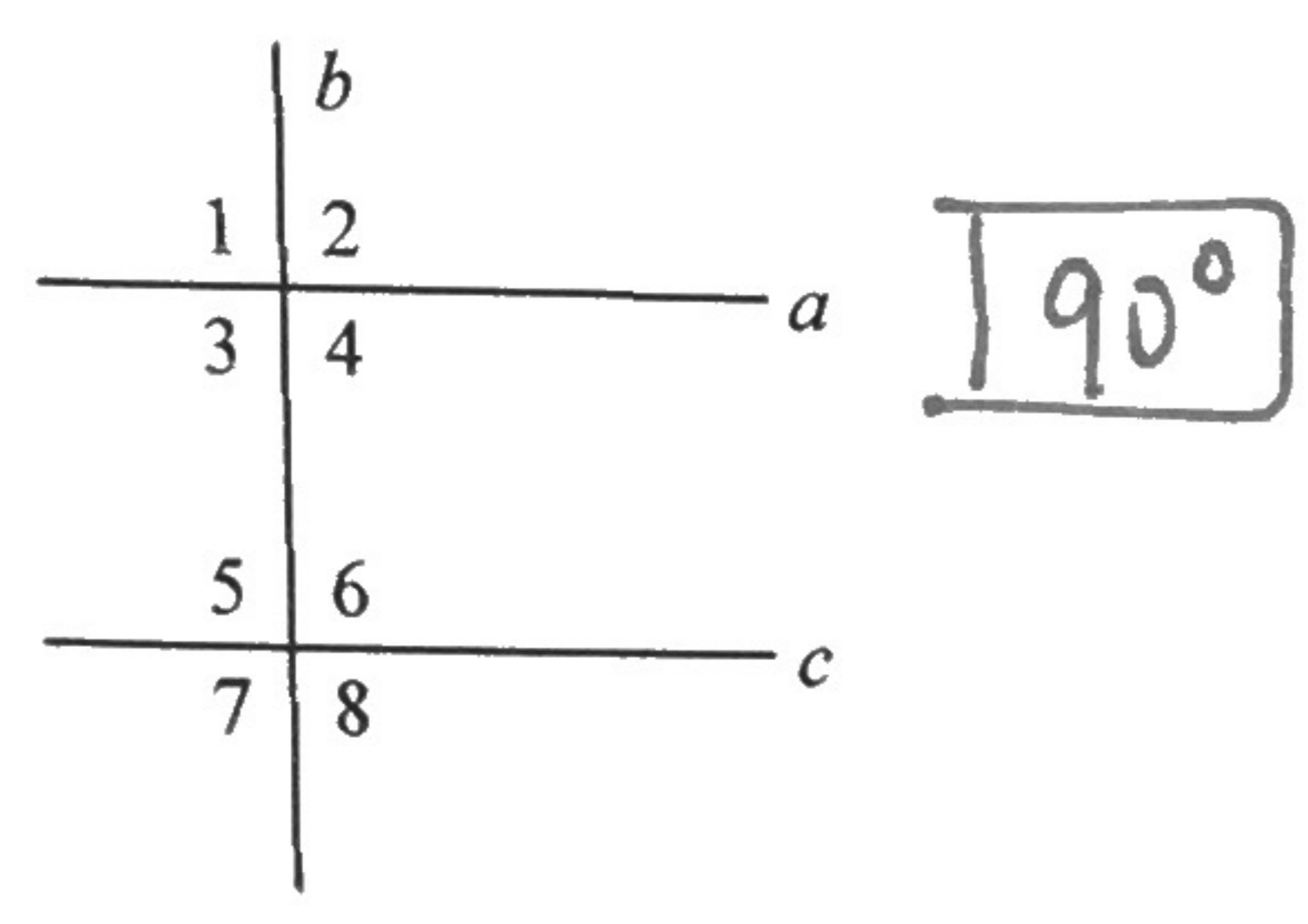
$3x - 10 = 2x + 5$   
 $x = 15$   
 $m\angle 1 = 35^\circ$



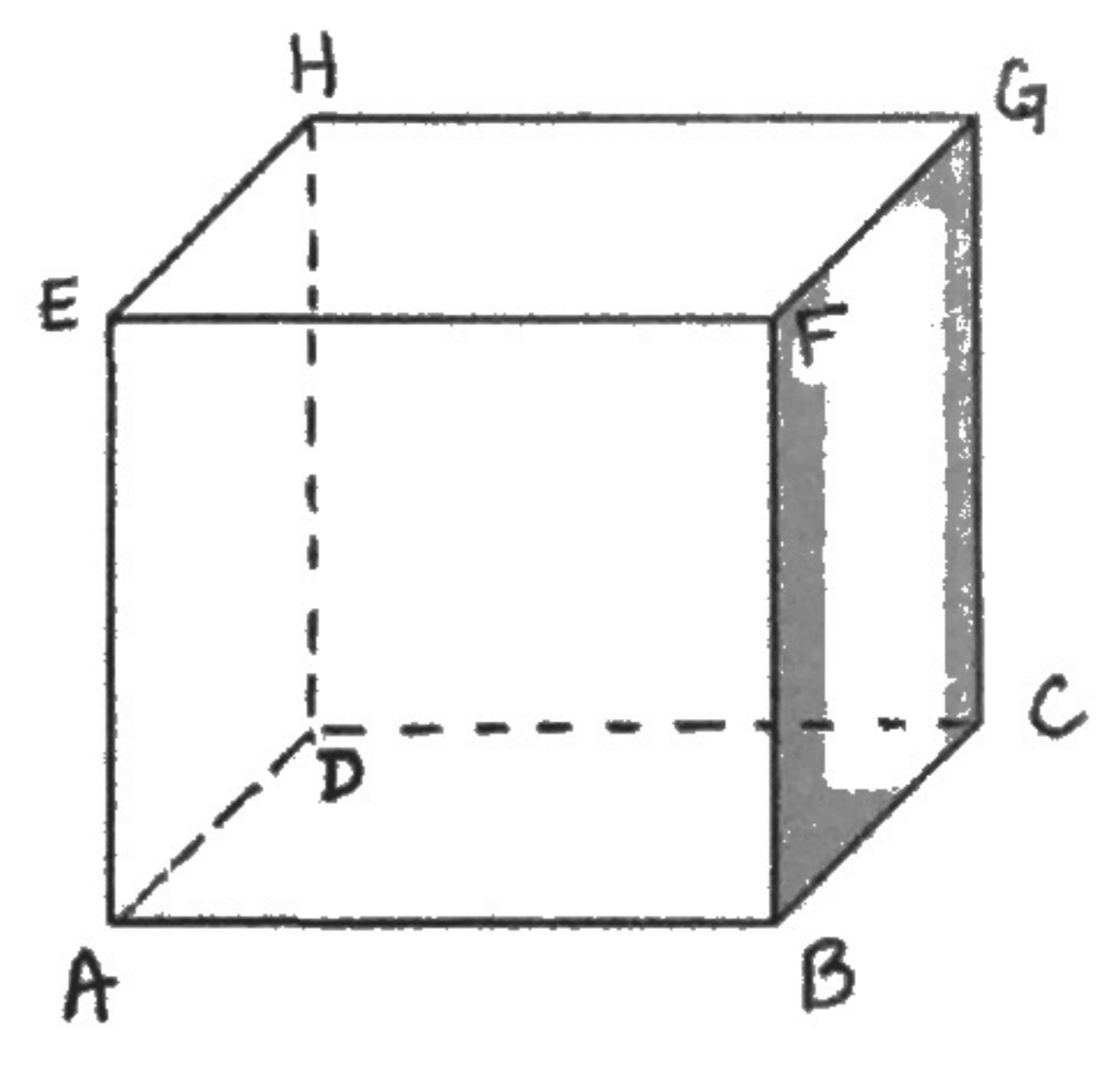
14. Find the value of  $x$  for which  $l$  is parallel to  $m$ . The diagram is not to scale.



15. If  $C \perp b$  and  $a \parallel c$ , what is  $m\angle 8$ ?



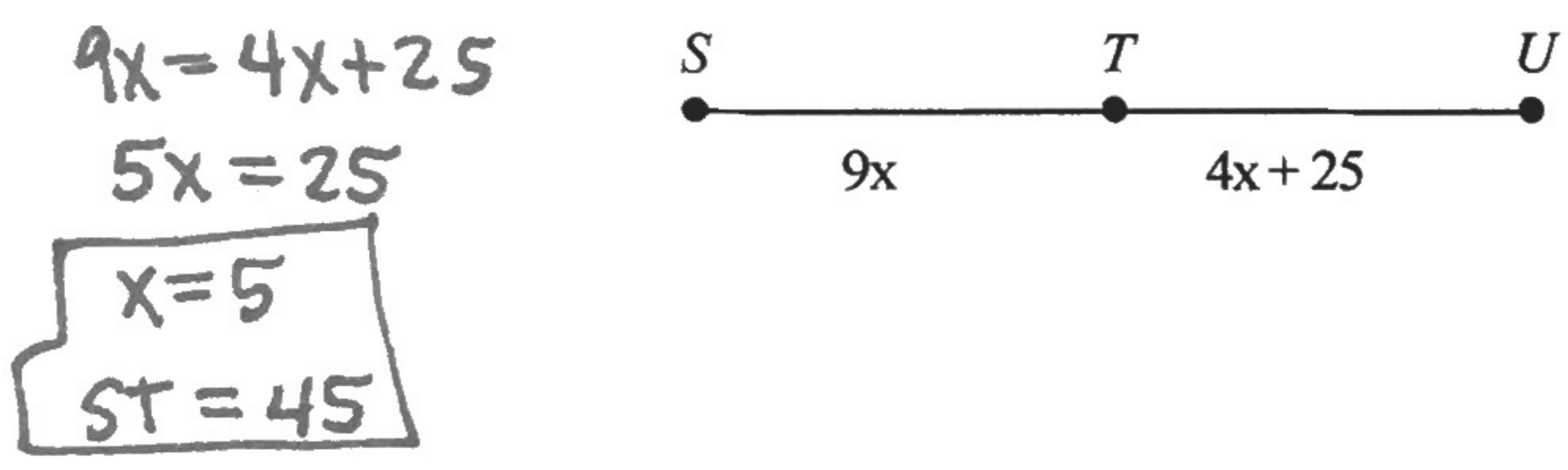
16. Use the diagram to answer each question.



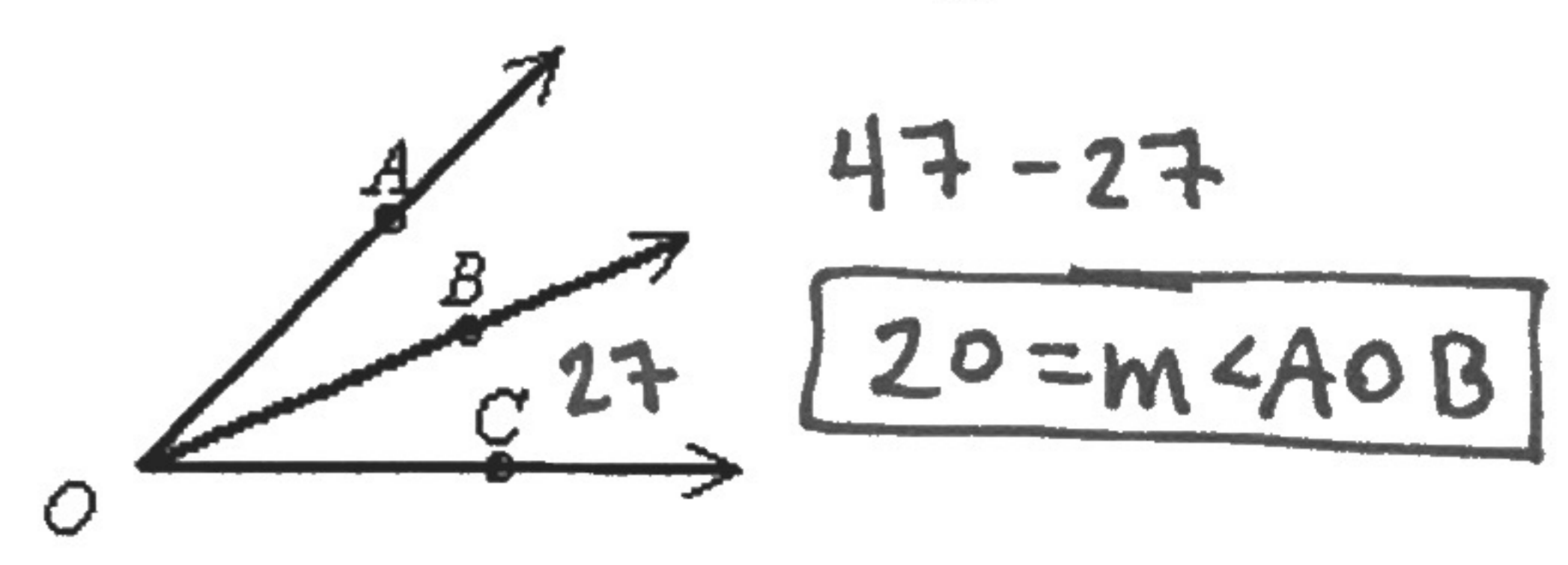
- a. What is the intersection of planes EAD and DCB?  $\overleftrightarrow{AD}$
- b. Name a fourth point in plane GFA.  $D$

- c. Name three lines parallel to  $\overleftrightarrow{GC}$   
 $\overleftrightarrow{FB}$   $\overleftrightarrow{EA}$   $\overleftrightarrow{HD}$

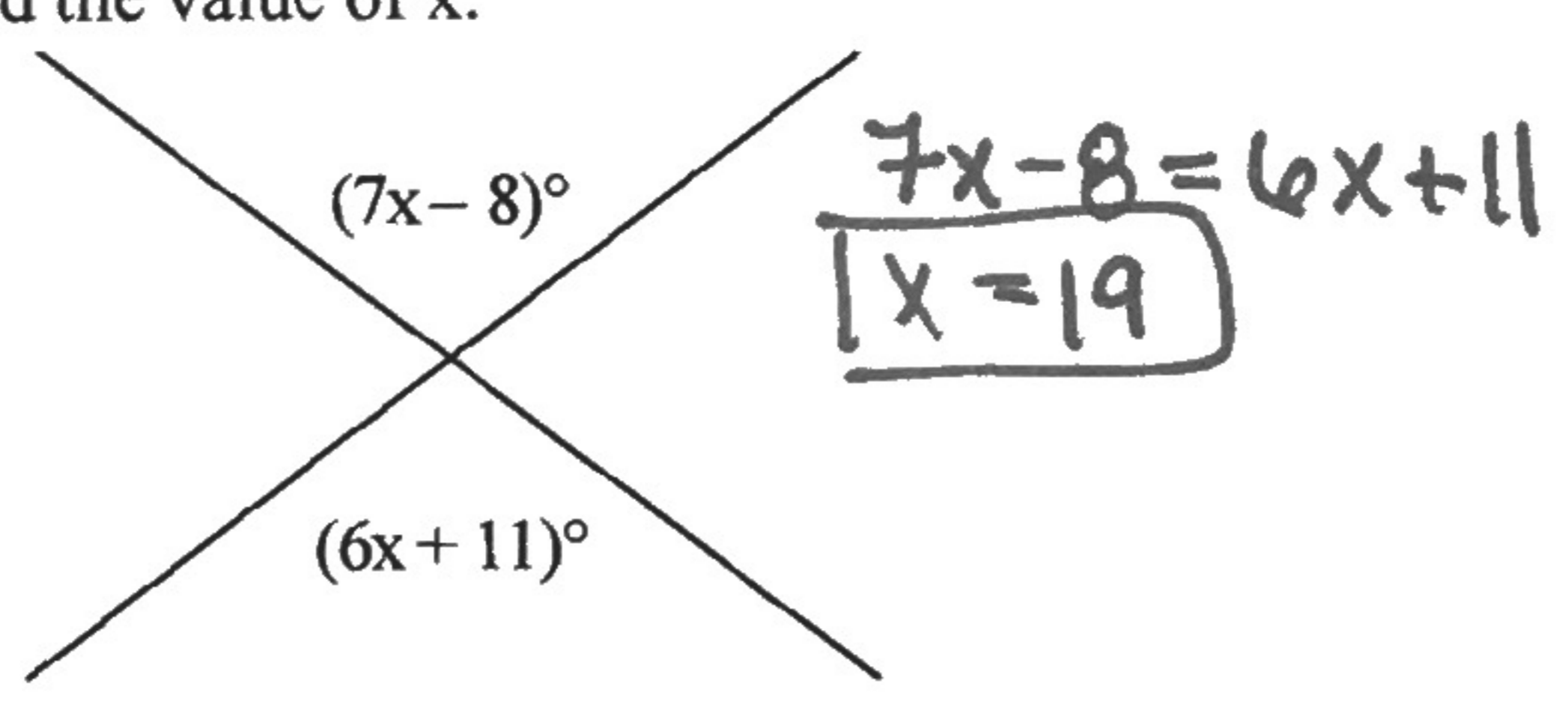
17. If  $T$  is the midpoint of  $\overline{SU}$ , find the values of  $x$  and  $ST$ . The diagram is not to scale.



15. If  $m\angle BOC = 27$  and  $m\angle AOC = 47$ , then what is the measure of  $\angle AOB$ ? The diagram is not to scale.

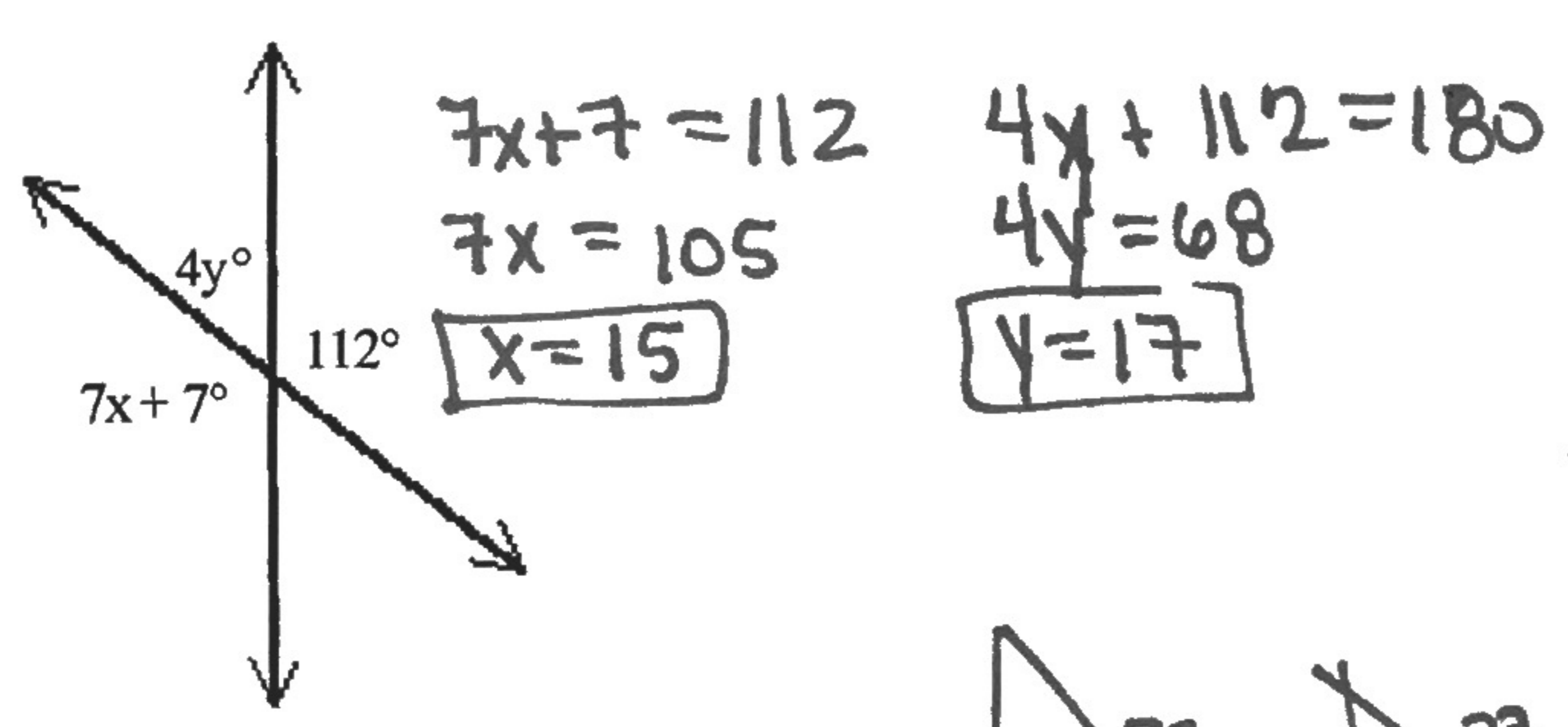


16. Find the value of  $x$ .



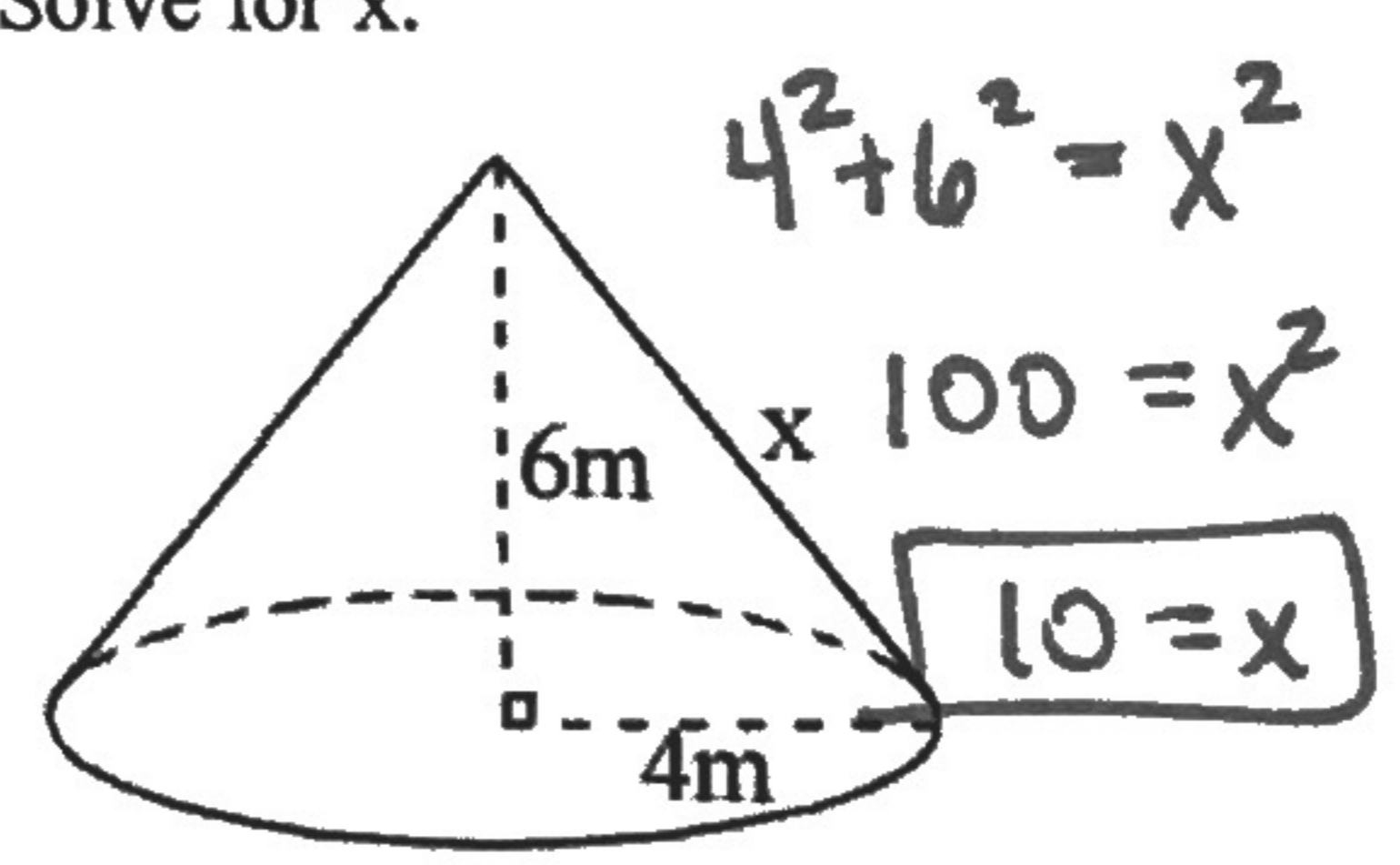
Drawing not to scale

17. Find the values of  $x$  and  $y$ .

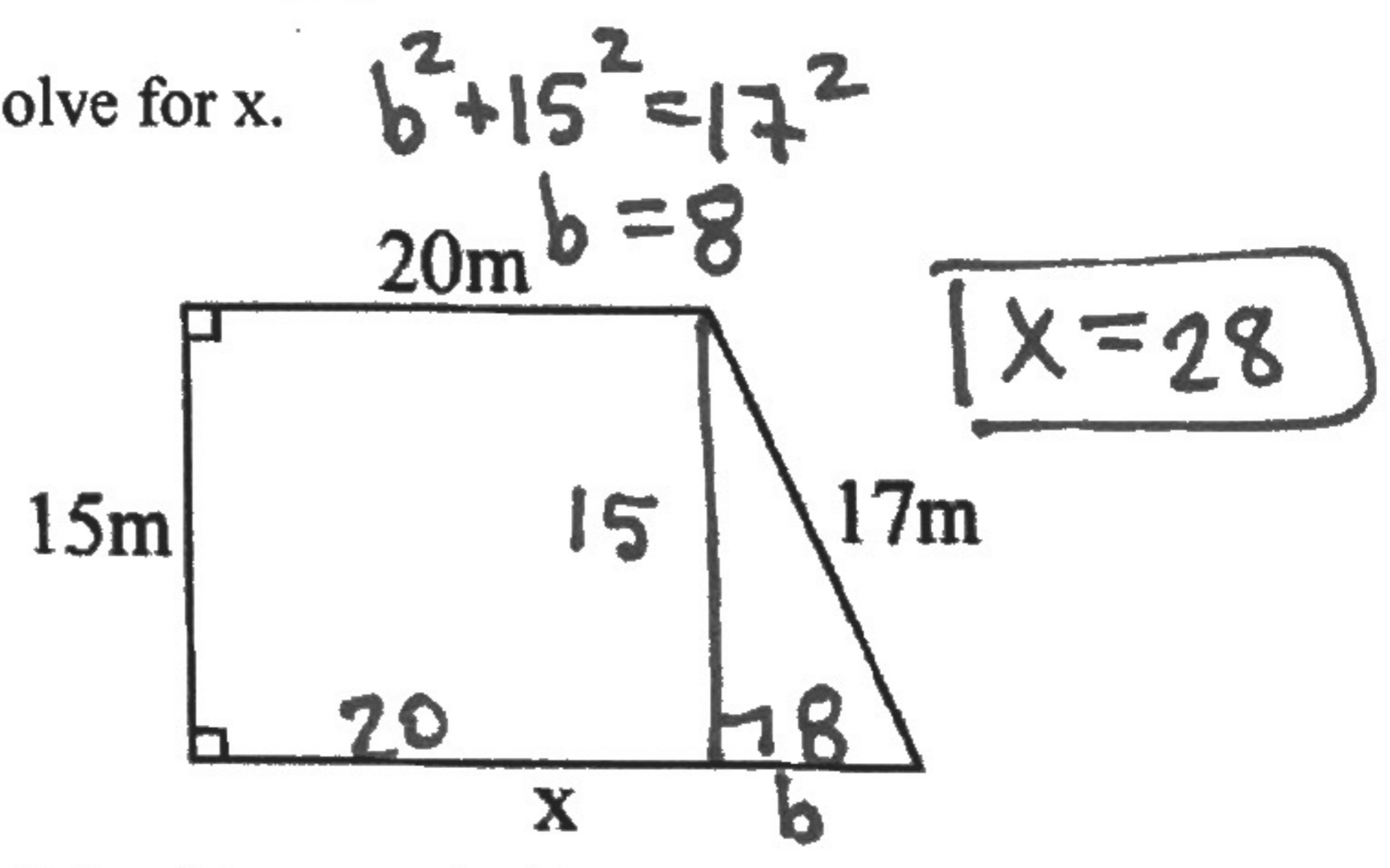


Drawing not to scale

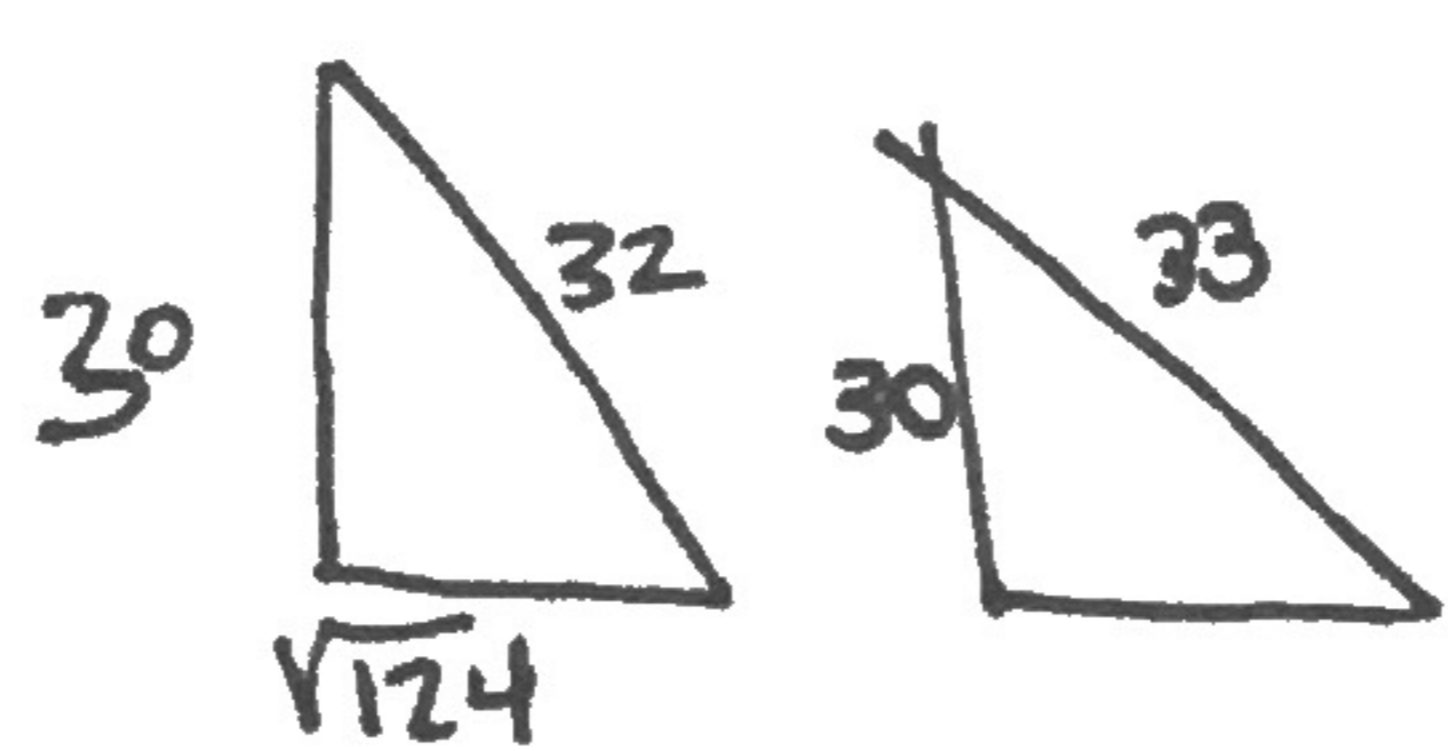
18. Solve for  $x$ .



19. Solve for  $x$ .

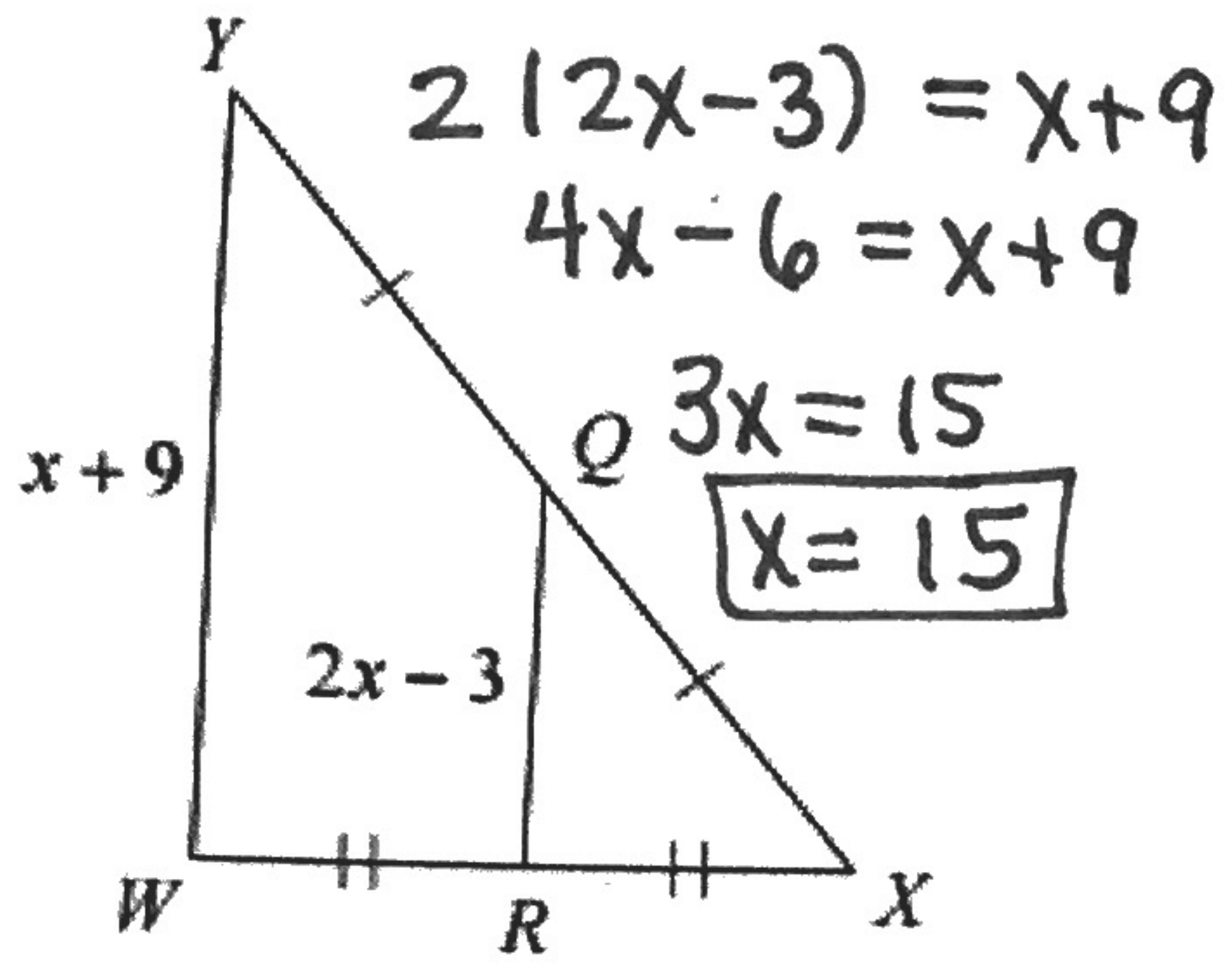


20. Michael has two ladders set up to clean the gutters of his house. The top of each ladder reaches the base of the gutter, 30 feet from the ground. One ladder is 32 feet tall while the other is 33 feet tall. How far is each ladder from the base of the house?

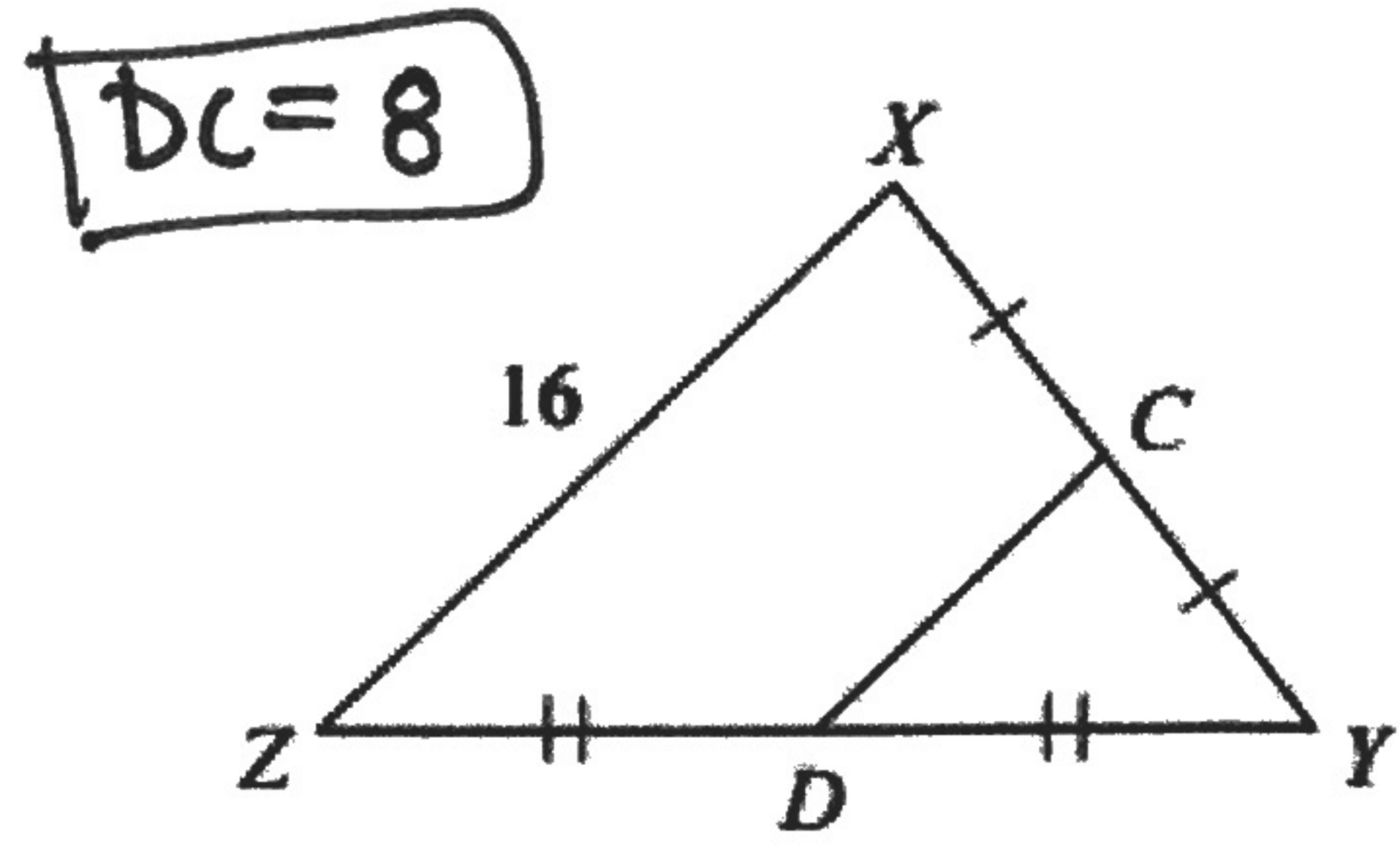


$\sqrt{124}$  or 11.136  
 $\sqrt{189}$  or 13.748

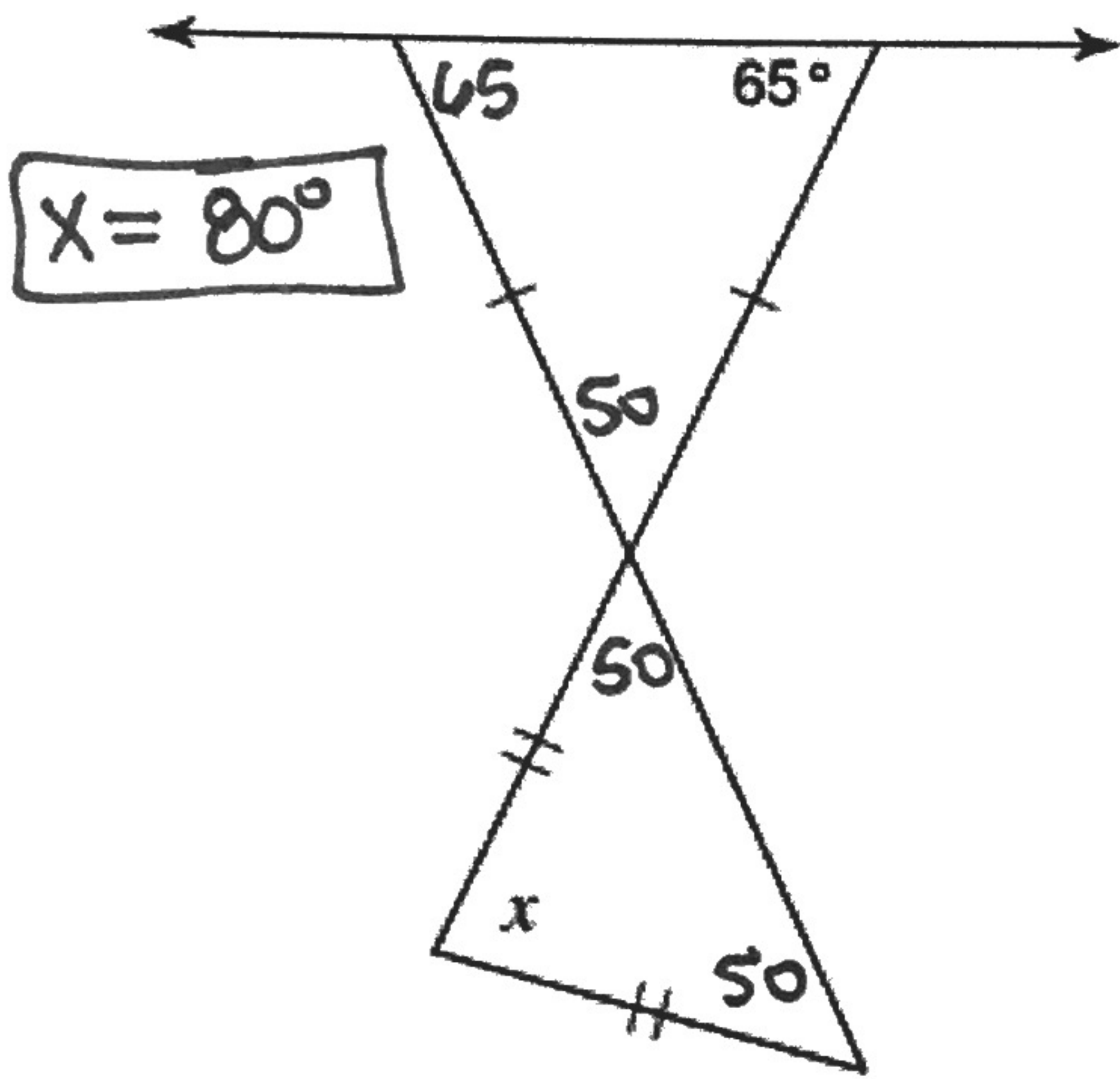
21. Solve for x.



22. Solve for x. DC



23. Solve for x.



24. Solve for x.

