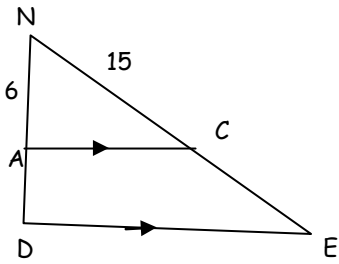


Directions: You MUST show all work to receive any credit. DIAGRAMS ARE NOT TO SCALE.

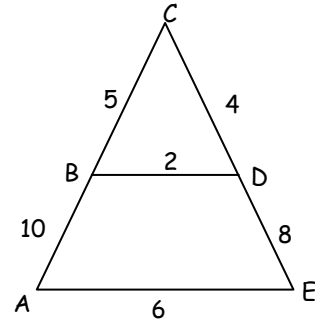
1. a) Give the postulate that proves the two triangles are similar? _____

b) $\triangle ANC \sim \triangle$ _____



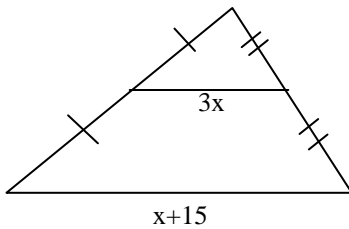
2. a) Which two reasons can you use to prove these two triangles are similar? _____

b) $\triangle BCD \sim \triangle$ _____

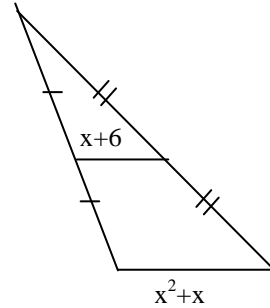


3. Find x in each problem:

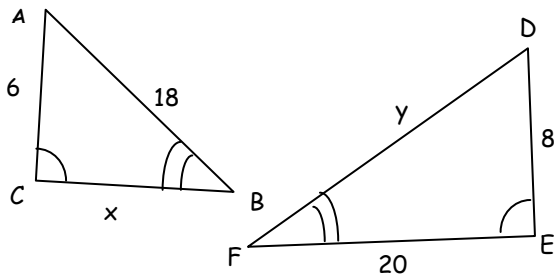
a)



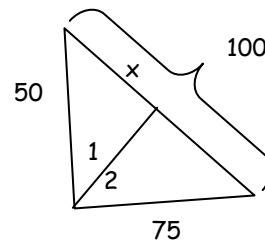
b)



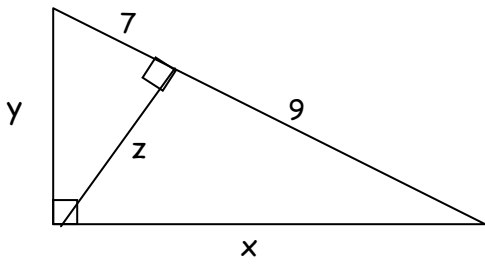
4. Solve for x and y .



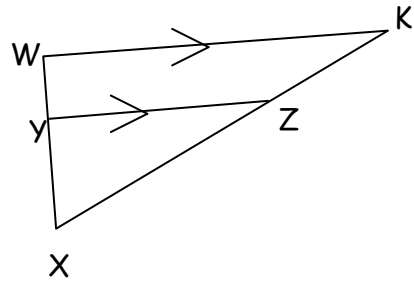
5. Given $\angle 1 \cong \angle 2$, solve for x .



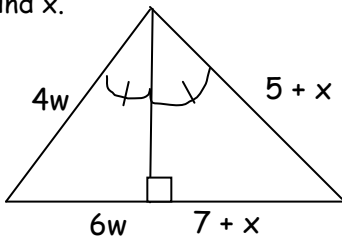
6. Solve for x , y and z .



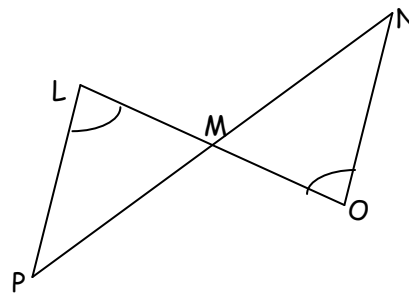
7. $WK=4x$, $YZ=16$, $KZ=13.5$, $KX=31.5$.



8. Find x .

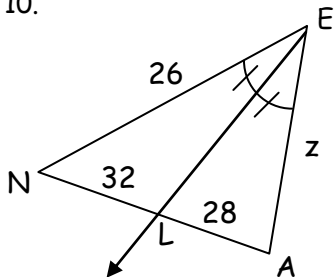


9. $LM=12.5$, $MO=20$, $LP=x+2$, $NO=2x$.

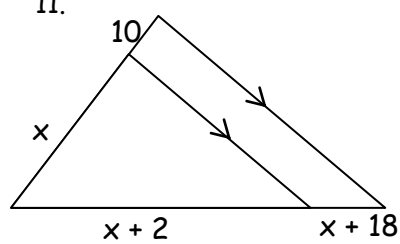


Solve for the variables.

10.

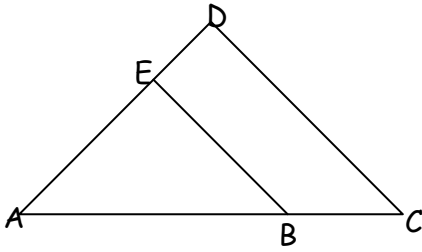


11.

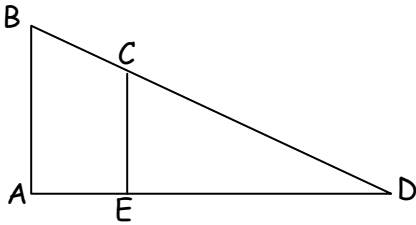


12. $AD:ED = 6:2$, $BE=3$, $DC = \underline{\hspace{2cm}}$

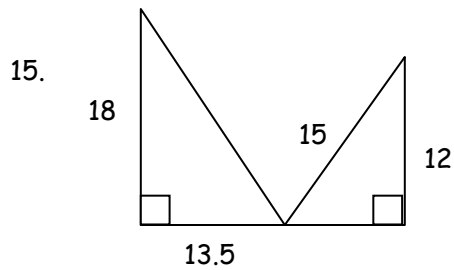
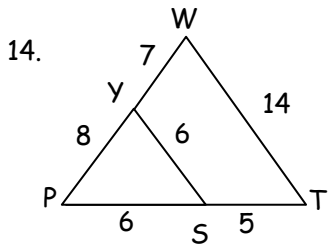
In the triangle $\overline{EB} \parallel \overline{DC}$.



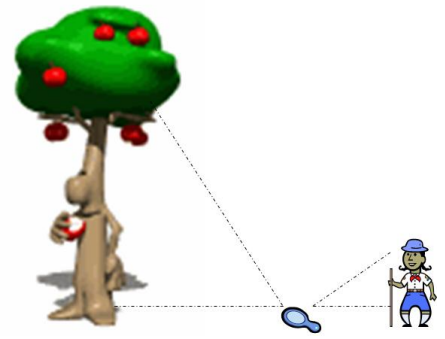
13. $\overline{CE} \parallel \overline{AB}$, $m\angle A = 90^\circ$,
 $CD = 14$, $DA = 21$, $DE = 10$,
 $BD = \underline{\hspace{2cm}}$, $BC = \underline{\hspace{2cm}}$



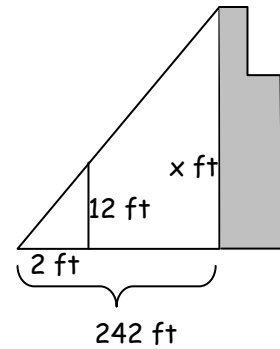
Are the triangles similar? If so, write a similarity statement, show your work and state the theorem or postulate supports your answer.



16. To estimate the height of a tree, a girl scout sights the top of the tree in a mirror that is 34.5 meters from the tree. The mirror is on the ground and faces upward. The scout is 0.75 meters from the mirror, and distance from her eyes to the ground is about 1.75 meters. How tall is the tree?



17. Josh wanted to measure the height of the Sears Tower in Chicago. He used a 12-foot light pole and measured its shadow at 1 p.m. The length of the shadow was 2 feet. Then he measured the length of Sears Tower's shadow and it was 242 feet at the same time. What is the height of the Sears Tower?



18. Given: $\angle W \cong \angle Y$, $\overline{HA} \perp \overline{WY}$, $\overline{KB} \perp \overline{WY}$
 Prove: $\frac{AW}{BY} = \frac{AH}{BK}$

