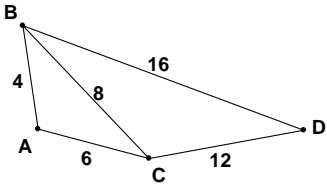
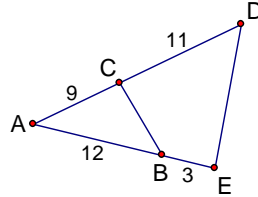


If the triangles in 1 – 5 can be proved similar, (1) Complete the similarity statement and (2) Tell which theorem or postulate you would use. If they cannot be proved similar then write “None.”

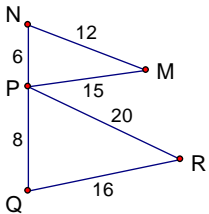
1. $\triangle ABC \sim \triangle$ _____ by _____



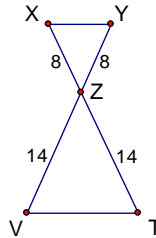
2. $\triangle ABC \sim \triangle$ _____ by _____



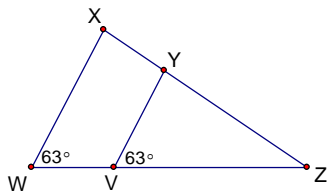
3. $\triangle NMP \sim \triangle$ _____ by _____



4. $\triangle XYZ \sim \triangle$ _____ by _____



5. $\triangle YVZ \sim \triangle$ _____ by _____

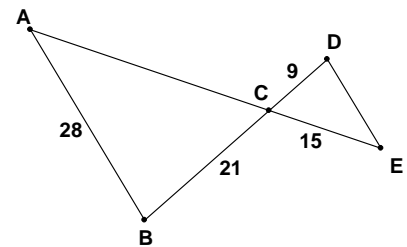


6. $\triangle BAC \sim \triangle DEC$

a. What is the scale factor of $\triangle BAC$ to $\triangle DEC$? _____

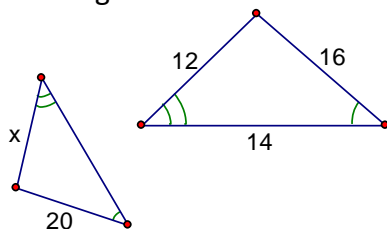
b. Find AC. _____

c. Find DE. _____

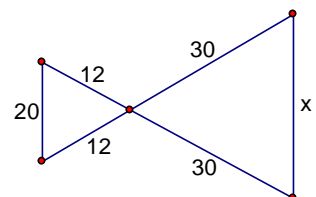


Find the value of x. The triangles are similar.

7. $x =$ _____



8. $x =$ _____



9. Midsegment of a Triangle:

- The midsegment of a triangle joins the _____ of two sides of a triangle.
- The midsegment is _____ to the third side and is _____ the length of the third side.

10. The sum of the measures of the angles of a triangle is _____.

11. The exterior angle of a triangle is equal to _____ of the _____ of the triangle.

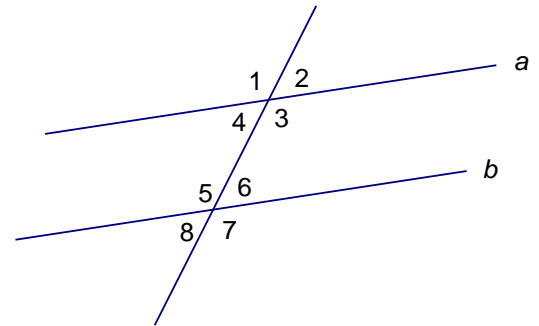
12. Triangle Proportionality Theorem and its converse:

- A line that is parallel to one side of a triangle divides the other two sides _____.
- If a line intersects 2 sides of a triangle so that it divides those 2 sides proportionally, then it is _____.

Use the diagram to answer 13.

13. Name the type of each given angle pair.

- $\angle 3$ and $\angle 5$
- $\angle 1$ and $\angle 7$
- $\angle 4$ and $\angle 8$
- $\angle 8$ and $\angle 6$
- $\angle 4$ and $\angle 3$



14. Complete the following proof. Prove that if $8 = 2(x - 3)$, then $x = 7$.

Given: $8 = 2(x - 3)$

Prove: $x = 7$

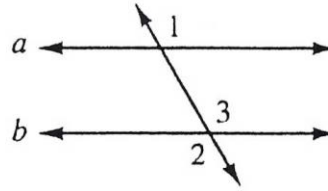
Statements	Reasons
1) $8 = 2(x - 3)$	1)
2) $2(x - 3) = 8$	2)
3) $2x - 6 = 8$	3)
4)	4)
5) $x = 7$	5)

15.

Given: $\angle 1 \cong \angle 2$

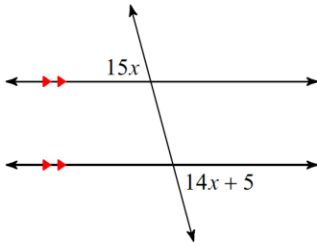
Prove: $a \parallel b$

Proof Statements	Reasons
1. $\angle 1 \cong \angle 2$	1. ___
2. $\angle 2 \cong \angle 3$	2. ___
3. $\angle 1 \cong \angle 3$	3. ___
4. $a \parallel b$	4. ___

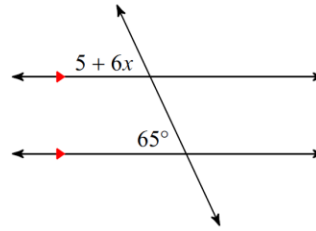


Solve for x.

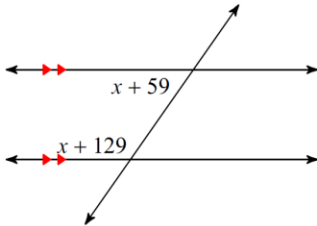
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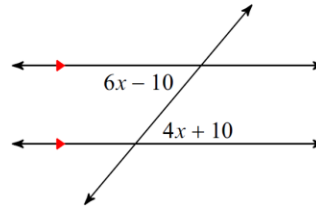
17)



18)

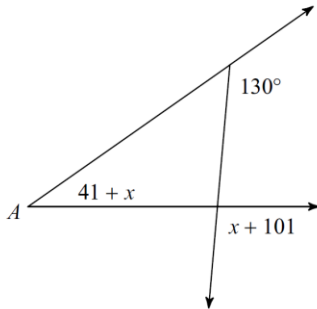


19)

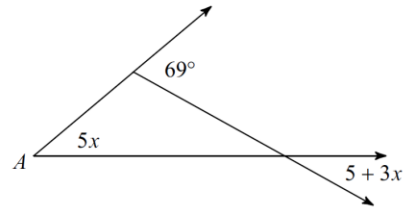


Find the measure of angle A.

20)

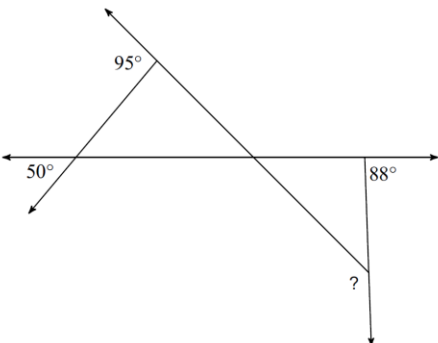


21)

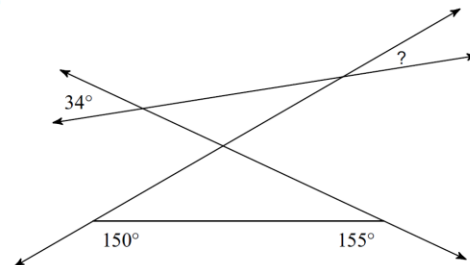


Find the measure of each angle indicated.

22)

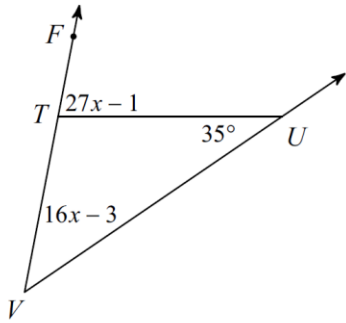


23)

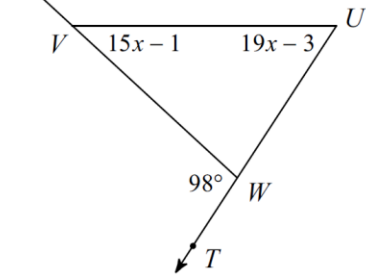


Solve for x .

24)

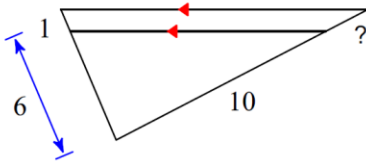


25)

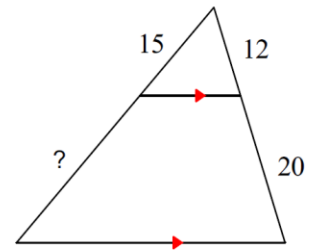


Find the missing length indicated.

26)

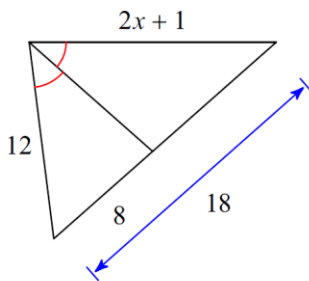


27)

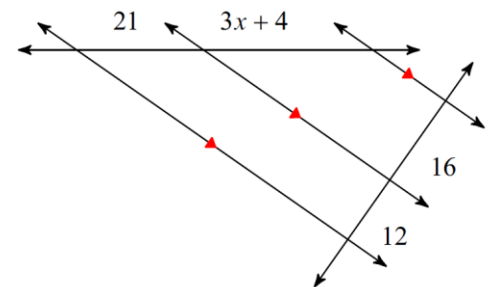


Solve for x .

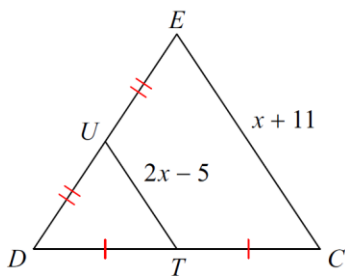
28)



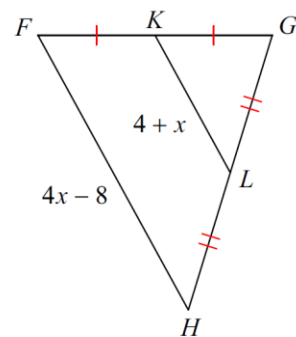
29)



30)

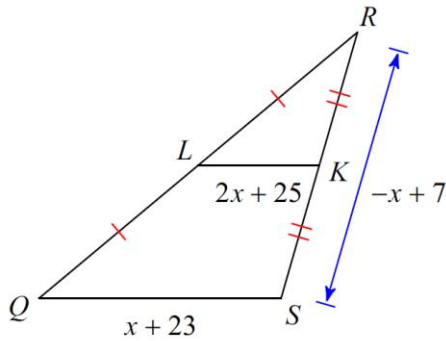


31)

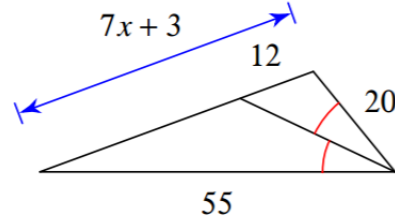


Find the missing length indicated.

32) Find LK

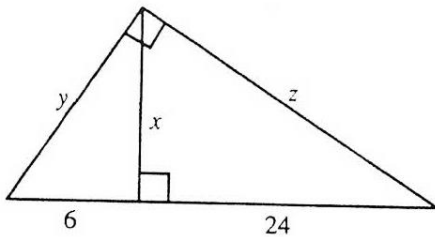


33) The length of the final side of the largest triangle.



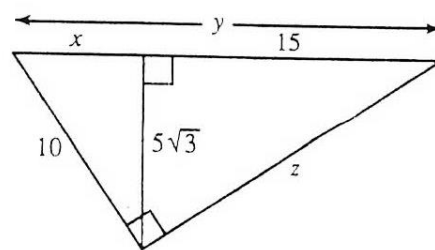
Find the indicated length.

34)



$x = \underline{\hspace{2cm}} \quad y = \underline{\hspace{2cm}} \quad z = \underline{\hspace{2cm}}$

35)

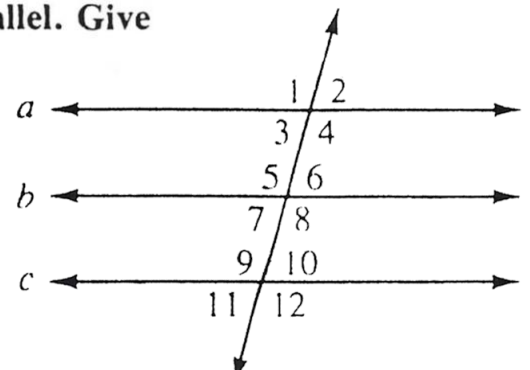


$x = \underline{\hspace{2cm}} \quad y = \underline{\hspace{2cm}} \quad z = \underline{\hspace{2cm}}$

Use the given information to state which lines are parallel. Give the theorem or postulate that justifies your answer.

35) $\angle 1 \cong \angle 9$

36) $\angle 3 \cong \angle 6$



37) $m\angle 8 + m\angle 10 = 180$

38) $\angle 4 \cong \angle 9$

39) $\angle 8 \cong \angle 12$

40) $\angle 1 \cong \angle 8$