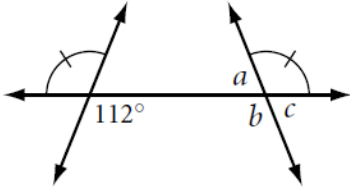


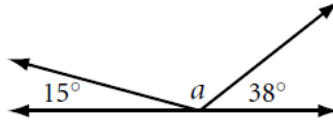
2.7 – PROPERTIES OF SEGMENTS & ANGLES

Find the missing angle measures.

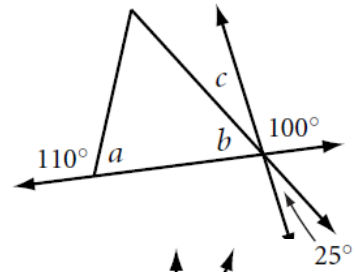
1.



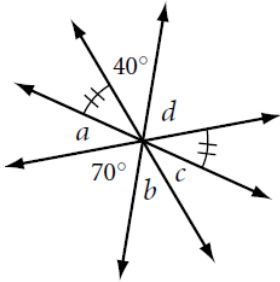
2.



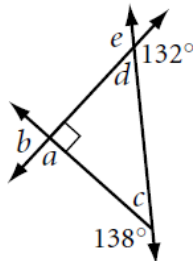
3.



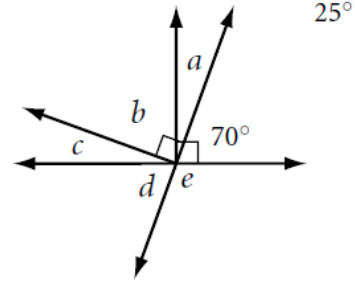
4.



5.

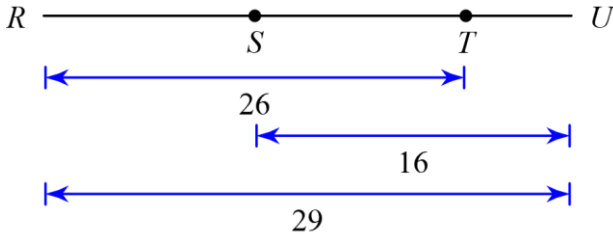


6.

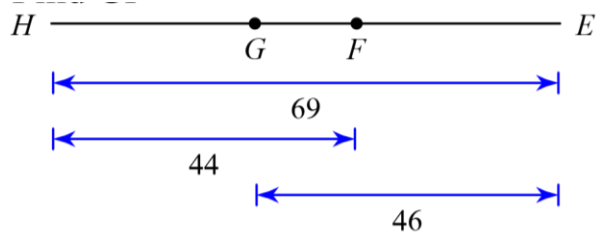


Find the indicated segment length.

7. Find ST .



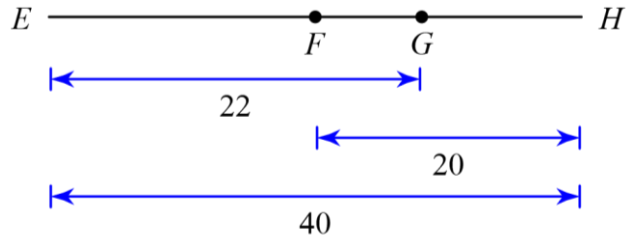
8. Find FG .



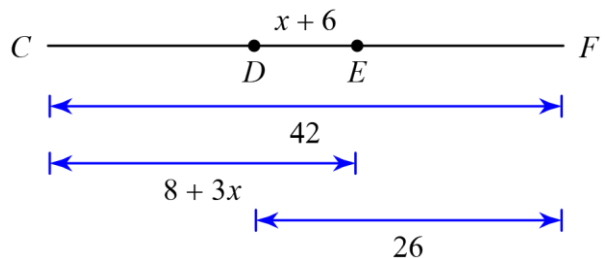
9. Does the diagram (at right) illustrate the Segment Addition Property accurately?

If a segment is added to two congruent segments, the sums are congruent.

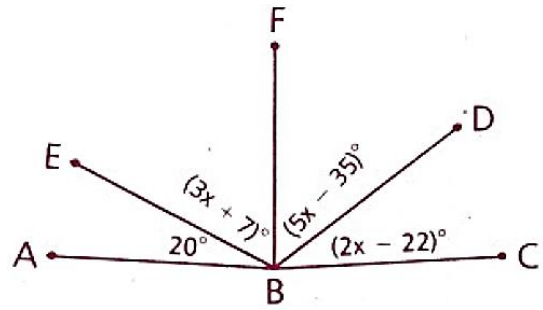
Explain your reasoning.



10. Use the Segment Addition Postulate to set up and solve an equation to find x . Is $\overline{CD} \cong \overline{EF}$?



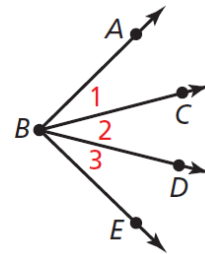
11. Given: $\angle EBF \cong \angle DBF$
 Is $\angle ABF \cong \angle CBF$? If so, what is their measure?



12. Given: $\overline{AC} \cong \overline{BD}$, $AB = x + 7y$, $BC = 3x + 4y$, $CD = 5x - y$; $AC = 38$
 Find the values of x & y and AD .



13. Given: $\angle ABD \cong \angle CBE$, $m\angle 1 = x^2 + 7x$, $m\angle 3 = 2x + 50$, $m\angle ABE = 100$
 Find the value of x (that makes sense) and $m\angle 2$.



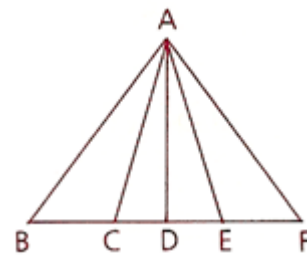
Two-Column Proof Problems:

14. Given: $\angle BAD \cong \angle FAD$
 \overline{AD} bisects $\angle CAE$

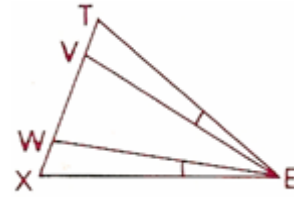
Prove: $\angle BAC \cong \angle FAE$

STATEMENTS

REASONS



15. Given: $\angle TEV \cong \angle XEW$
 Prove: $\angle TEW \cong \angle XEV$



STATEMENTS

REASONS

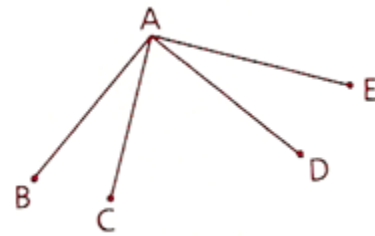
16. Given: $J \text{ \& } K \text{ trisect } \overline{HM}$
 $\overline{GH} \cong \overline{MO}$
 Prove: $\overline{GJ} \cong \overline{KO}$



STATEMENTS

REASONS

17. Given: $\angle BAD$ is a right angle
 $\overline{CA} \perp \overline{AE}$
 Prove: $\angle BAC \cong \angle EAD$



STATEMENTS

REASONS

18. Given: $\angle NPR$ is a right \angle
 $\overline{WE} \perp \overline{ET}$
 $\angle SPR \cong \angle XET$
- Prove: $\angle NPS \cong \angle WEX$



STATEMENTS	REASONS