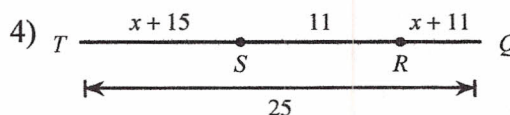
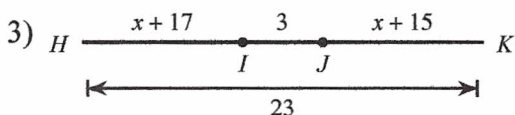
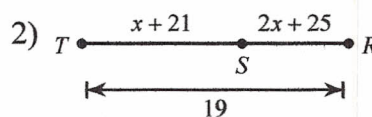
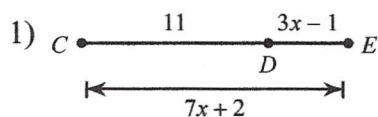


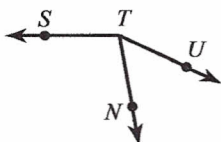
## 2.9 ~ Properties of Segments &amp; Angles

Use the Segment Addition Postulate to set up and solve an equation to find the value of  $x$ .

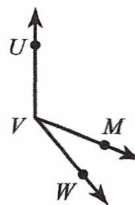


Use the Angle Addition Postulate to find the measure of the indicated angle.

- 5) Find  $m\angle UTN$  if  $m\angle NTS = 100^\circ$   
and  $m\angle UTS = 154^\circ$ .

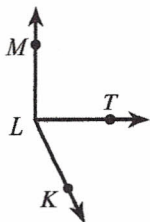


- 6) Find  $m\angle UVM$  if  $m\angle MVW = 28^\circ$   
and  $m\angle UVW = 140^\circ$ .

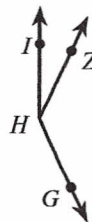


Use the Angle Addition Postulate to set up and solve an equation to find the value of  $x$ .

- 7) Find  $x$  if  $m\angle MLT = 90^\circ$ ,  $m\angle TLK = 9x - 8$ ,  
and  $m\angle MLK = 20x - 6$ .



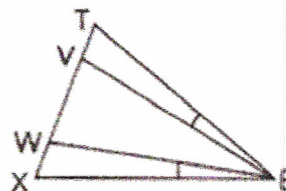
- 8) Find  $x$  if  $m\angle ZHG = 130^\circ$ ,  
 $m\angle IHG = 18x + 11$ , and  $m\angle IHZ = 2x + 9$ .



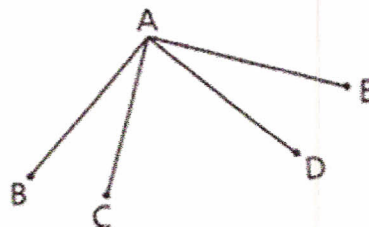
## 2.9 Properties of Segments & Angles

Two-Column Proof Problems:

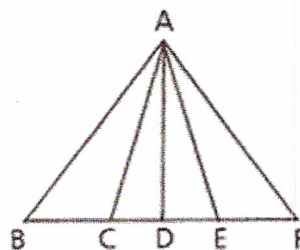
9. Given:  $\angle TEV \cong \angle XEW$   
 Prove:  $\angle TEW \cong \angle XEV$



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



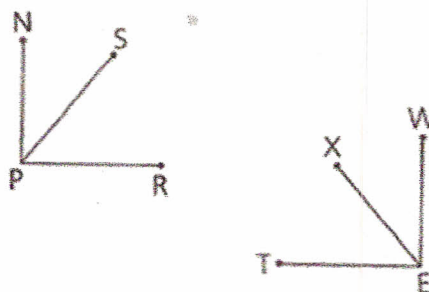
11. Given:  $\angle BAD \cong \angle FAD$   
 $\overrightarrow{AD}$  bisects  $\angle CAE$   
 Prove:  $\angle BAC \cong \angle FAE$



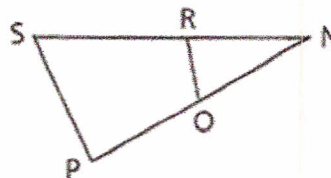
12. Given: J and K are trisection points of  $\overline{HM}$   
 $\overline{GH} \cong \overline{MO}$   
 Prove:  $\overline{GJ} \cong \overline{KO}$



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



14. Given: O is the midpoint of  $\overline{NP}$   
 $\overline{RN} \cong \overline{PO}$   
 Prove:  $\overline{RN} \cong \overline{NO}$



PROOFS MUST BE DONE ON PROOF PAPER.