

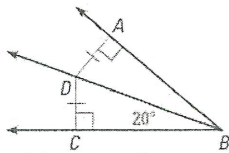
1. Given: Point C is in the interior of $\angle ABD$.

If $\angle ABC \cong \angle DBC$, then \overrightarrow{BC} is the angle bisector of $\angle ABD$.

2. How are perpendicular bisectors and angle bisectors of a triangle different?

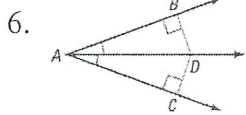
Use the information in the diagram to find the measure.

3. Find $m\angle ABD$



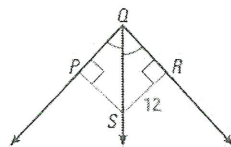
$m\angle ABD = 20^\circ$

Is $DB=DC$? Justify your answer.



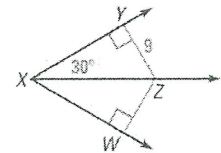
Yes; Justify

4. Find PS



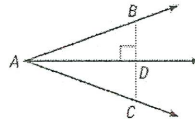
$PS = 12 \text{ units}$

5. $m\angle YXW = 60^\circ$. Find WZ



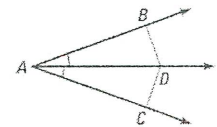
$WZ = 9 \text{ units}$

7.



No; Justify

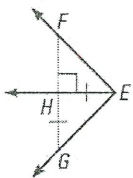
8.



No; Justify

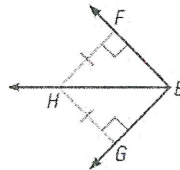
Can you conclude that \overrightarrow{EH} bisects $\angle FEG$? Justify your answer.

9.



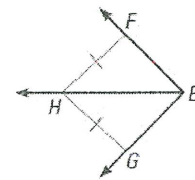
No; Justify

10.



Yes; Justify

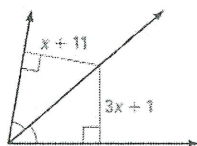
11.



No; Justify

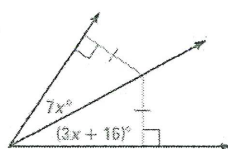
Find the value of x. * Show your work *

12.



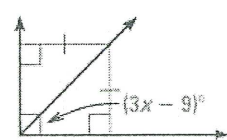
$x = 5$

13.



$x = 4$

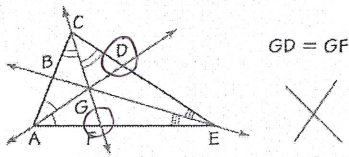
14.



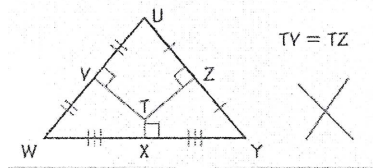
$x = 18$

Describe the error in reasoning. The state a correct conclusion about distances that can be deduced from the diagram.

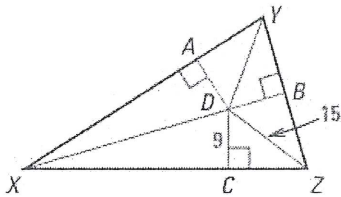
15.



16.



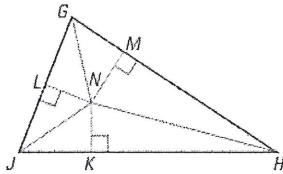
\overline{XD} , \overline{YD} and \overline{ZD} are angle bisectors of $\triangle XYZ$.



17. Point D is called the incenter.

18. Find AD. = 9 units

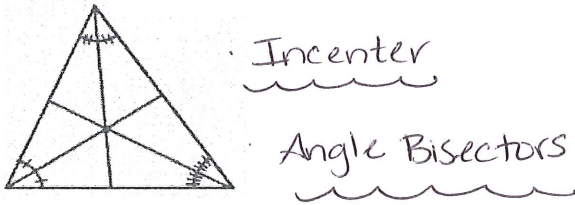
19. In the diagram, N is the incenter of $\triangle GHJ$. Which statement cannot be deduced from the given information?



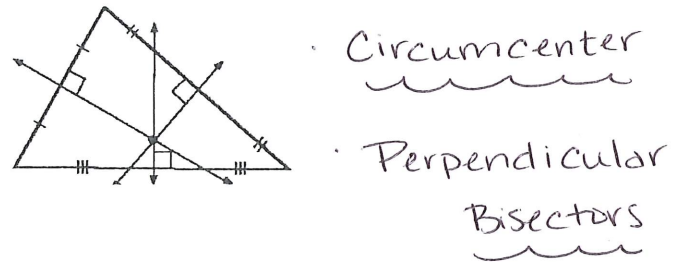
- (A) $\overline{NM} \cong \overline{NK}$ (B) $\overline{NL} \cong \overline{NM}$
 (C) $\overline{NG} \cong \overline{NJ}$ (D) $\overline{HK} \cong \overline{HM}$

In each figure below, tell what point of concurrency is illustrated and identify the line segments that forms that point.

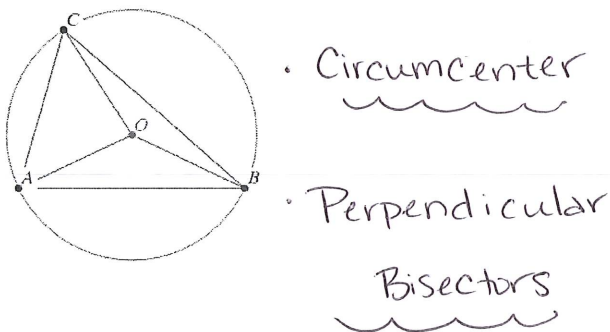
20.



21.



23.



24.

