

6.1 – 6.3 Day ONE CYU: Median, Altitude, Angle Bisector, & Perpendicular Bisector

Use when you get it right all by yourself

S Use when you did it all by yourself, but made a silly mistake

H Use when you could do it alone with a little help from teacher or peer

G Use when you completed the problem in a group

X Use when a question was attempted but wrong (get help)

N Use when a question was not even attempted

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Drawing & Labeling special segments	1 - 4	5	
Counterexamples		6 - 8	
Solving Triangles with Special Segments	9		20 - 22
Properties of Special Segments	16 - 19, 24 - 26	10 - 15	27
Graphing Coordinates	23		
Midpoint Formula	24		
Perpendicular Slope	25, 26		
Slope	25, 26		
Distance Formula	27		

1 – 5: Draw and label a figure to illustrate each situation. Be sure to include appropriate markings.

1. \overline{AD} is an altitude of $\triangle ABC$.

2. \overline{GH} is a median of $\triangle EFG$.

3. \overline{NP} is a perpendicular bisector of \overline{ML} in $\triangle KLM$.

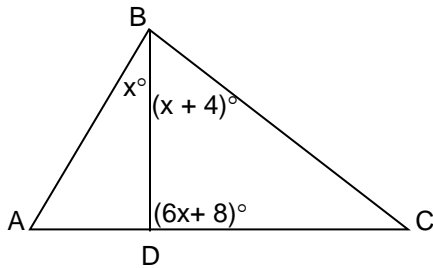
4. \overline{RS} is the angle bisector of $\triangle PRQ$.

5. \overline{TU} is the altitude, median, and perpendicular bisector of $\triangle UVW$.

6 – 8: Answer the following with Always, Sometimes or Never. Give Counterexamples.

6. The three altitudes of a triangle intersect at a vertex of the triangle.
7. The three medians of a triangle intersect at a point outside the triangle.
8. The three angle bisectors of a triangle intersect at a point inside the triangle

9. Find the value of x if \overline{BD} is an altitude of $\triangle ABC$.



10 – 15: Use the picture in the corner to determine if the statements are True or False: (write out the whole word.)

_____ 10. If G is the midpoint of \overline{ED} , then \overline{CG} is a median of $\triangle EBD$.

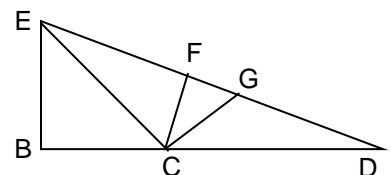
_____ 11. If $\overline{CF} \perp \overline{ED}$, then \overline{CF} is an altitude of both $\triangle ECD$ and $\triangle ECG$.

_____ 12. If $\overline{EB} \perp \overline{BD}$, then \overline{EB} is an altitude of $\triangle ECD$.

_____ 13. If $\overline{CF} \perp \overline{ED}$, then \overline{CF} is a perpendicular bisector of $\triangle ECD$.

_____ 14. If \overline{CG} is a median of $\triangle ECD$, then G is the midpoint of \overline{ED} .

_____ 15. Each leg of a right triangle is also an altitude of the triangle.



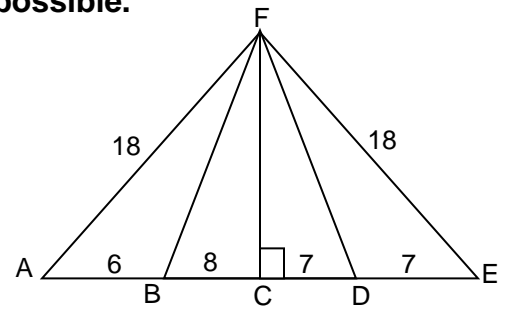
16 – 19: Complete each statement in as many ways as possible.

16. \overline{FD} is _____ of $\triangle FCE$. (1 answer)

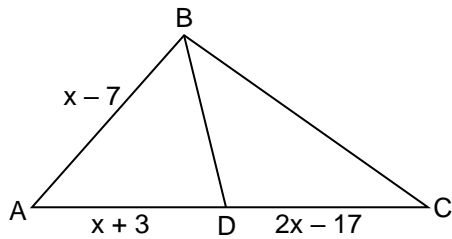
17. \overline{FC} is _____ of $\triangle AFE$. (4 answers)

18. \overline{FC} is _____ of $\triangle BFE$. (1 answer)

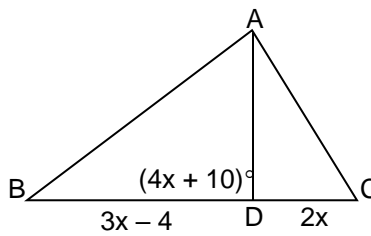
19. \overline{FC} is an altitude of _____ triangles.



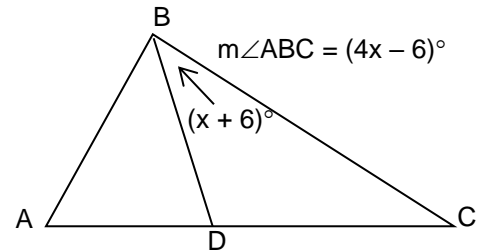
20. Find \overline{AB} if \overline{BD} is a median of $\triangle ABC$.



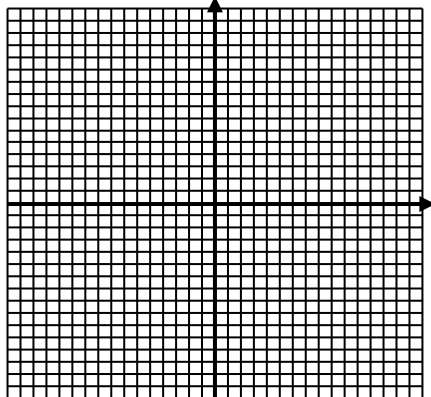
21. Find \overline{BC} if \overline{AD} is an altitude of $\triangle ABC$.



22. Find $m\angle ABC$ if \overline{BD} is an angle bisector of $\triangle ABC$.



23. Plot the points. $A(2, 5)$, $B(12, -1)$, and $C(-6, -8)$ are the vertices of $\triangle ABC$.



24. What are the coordinates of K if \overline{CK} is a median of $\triangle ABC$?

25. What is the slope of the perpendicular bisector of \overline{AB} ?

26. What is the slope of \overline{CL} if \overline{CL} is the altitude from point C?

27. Point N on \overline{BC} has coordinates $(6, -\frac{10}{3})$. Is \overline{NA} an altitude of $\triangle ABC$? Explain your answer.

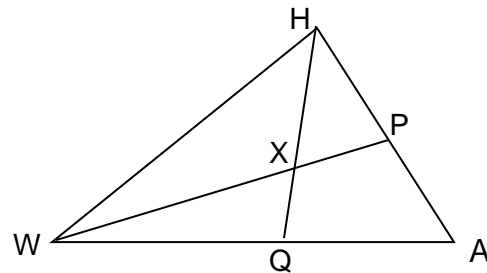
In $\triangle AHW$, $m\angle A = 64^\circ$ and $m\angle AWH = 36^\circ$. If \overline{WP} is an angle bisector and \overline{HQ} is an altitude, find each measure.

28. $m\angle AQH =$ _____

29. $m\angle APW =$ _____

30. $m\angle AHQ =$ _____

31. $m\angle HXW =$ _____



32. If \overline{WP} is a median, $AP = 3y + 11$ and $PH = 7y - 5$, find AH.

CYU Reflection: *How far can you go: basic, intermediate, or advanced?*

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the

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1	2	3	4	5	6	7	8
Basic		Intermediate			Advanced		Solved ALL!

