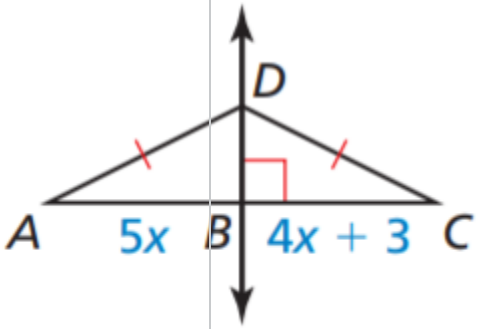
Chapter 6 Homework

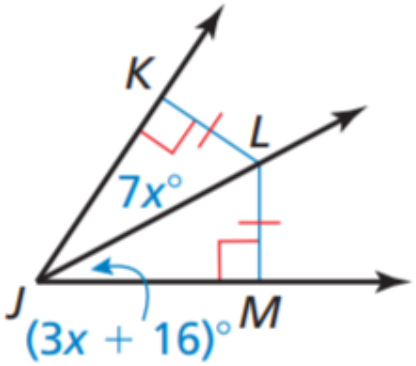
Wednesday, February 2, 2022 5:59 PM

Solve for the missing sides or angles in the problems below.

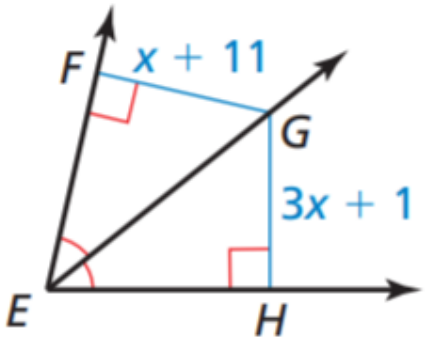
5. AB



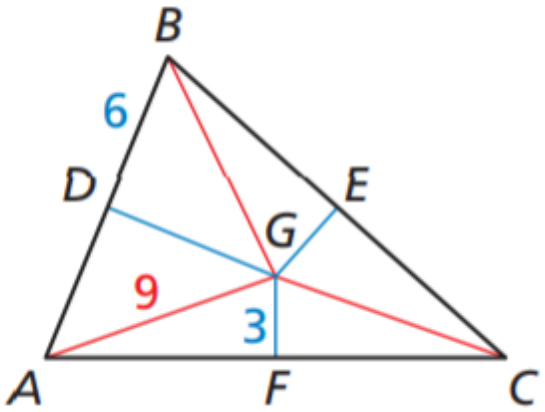
13. $m\angle KJL$



14. FG

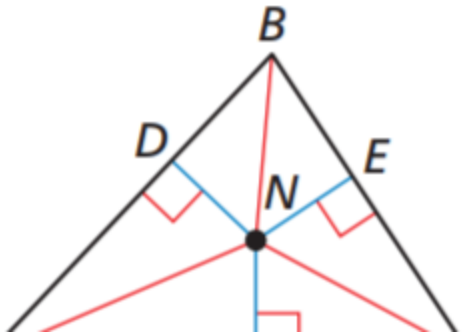


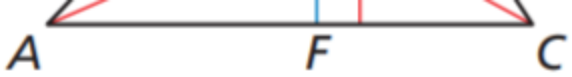
In triangle ABC below point G is the circumcenter.
Determine the lengths of BG, FC, DG, and AD.



#11 Triangle ABC below point N is the incenter.

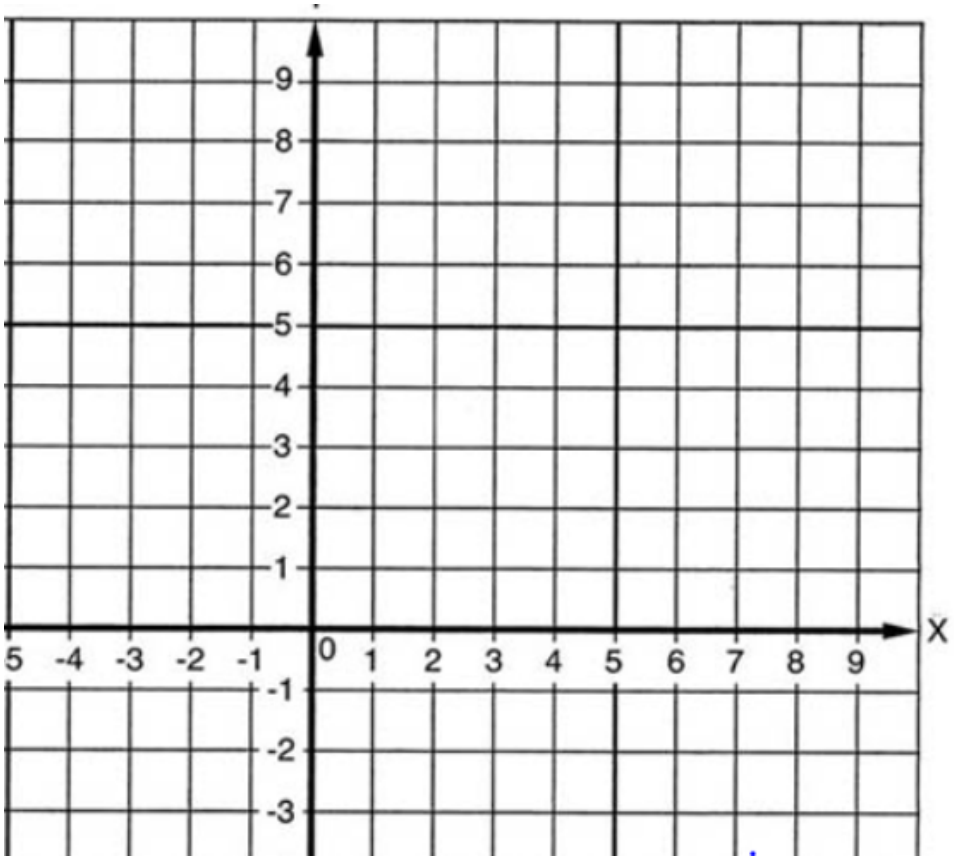
11. $ND = 6x - 2$
$NE = 3x + 7$
Find NF.





Find the coordinates of the circumcenter after graphing the ordered pairs below.

7. $A(2, 6), B(8, 6), C(8, 10)$



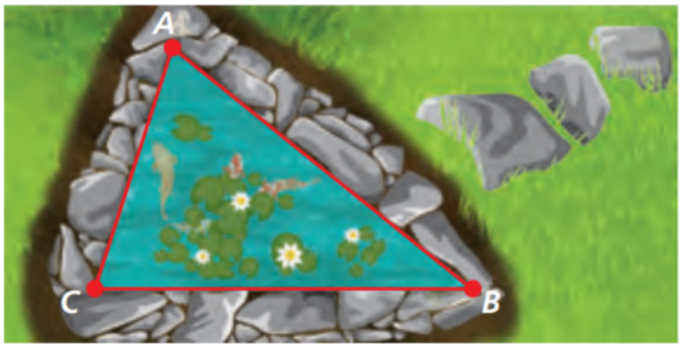
27. **MODELING WITH MATHEMATICS** You and two friends plan to meet to walk your dogs together. You want the meeting place to be the same distance from each person's house. Explain how you can use the diagram to locate the meeting place. *(See Example 1.)*

your house

friend's house

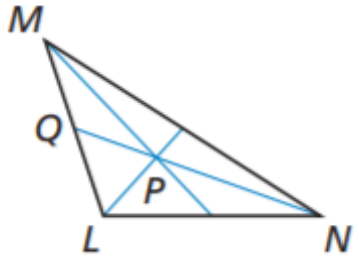
friend's house

28. **MODELING WITH MATHEMATICS** You are placing a fountain in a triangular koi pond. You want the fountain to be the same distance from each edge of the pond. Where should you place the fountain? Explain your reasoning. Use a sketch to support your answer. *(See Example 4.)*

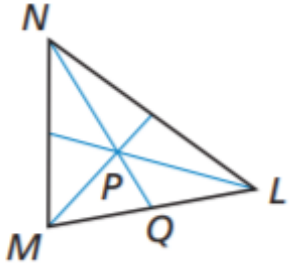


In Exercises 3–6, point *P* is the centroid of $\triangle LMN$. Find *PN* and *QP*. *(See Example 1.)*

3. $QN = 9$

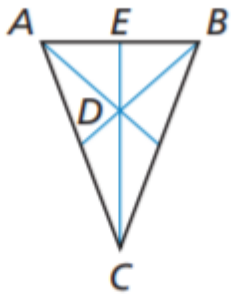


4. $QN = 21$

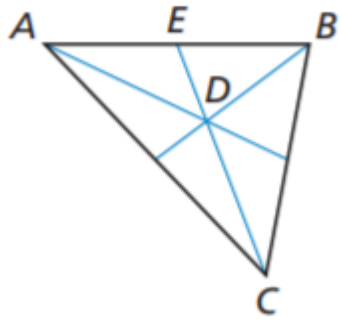


In Exercises 7–10, point *D* is the centroid of $\triangle ABC$. Find *CD* and *CE*.

7. $DE = 5$

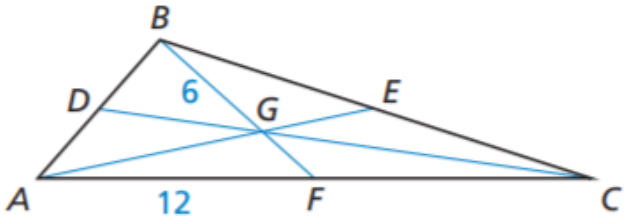


8. $DE = 11$



In Exercises 11–14, point *G* is the centroid of $\triangle ABC$. $BG = 6$, $AF = 12$, and $AE = 15$. Find the length of

the segment.



11. $\overline{FC}$

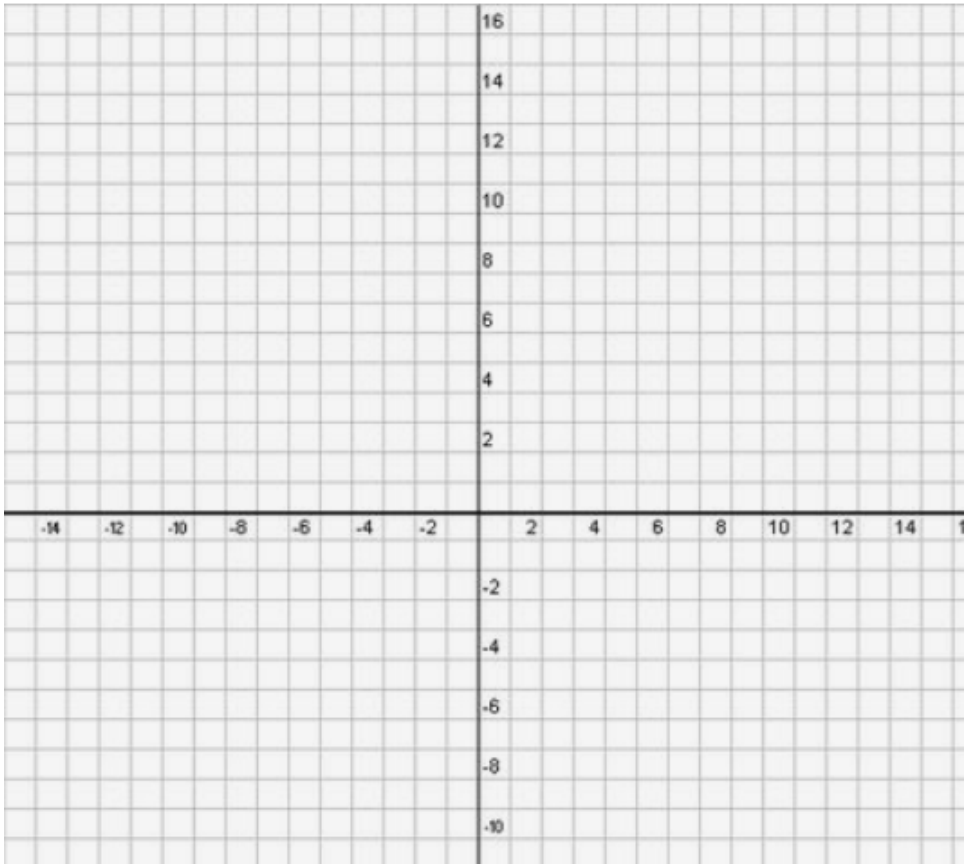
12. $\overline{BF}$

13. $\overline{AG}$

14. $\overline{GE}$

Graph #17 and determine the ordered pair of the centroid.

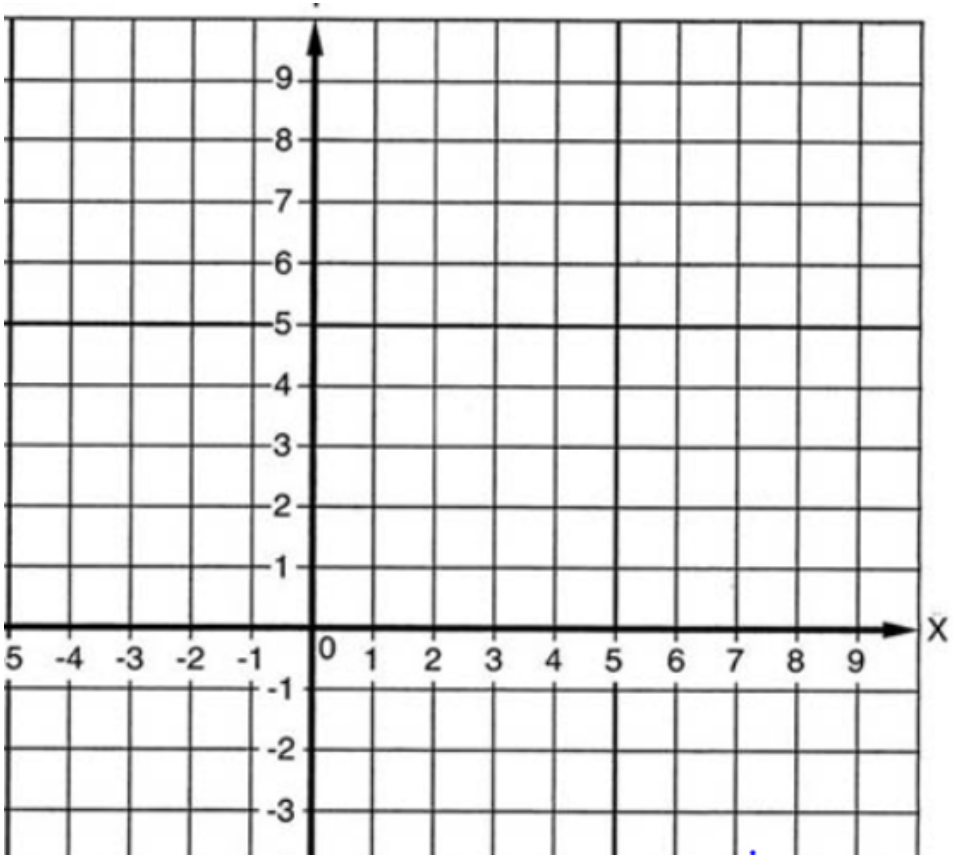
17. $S(5, 5), T(11, -3), U(-1, 1)$

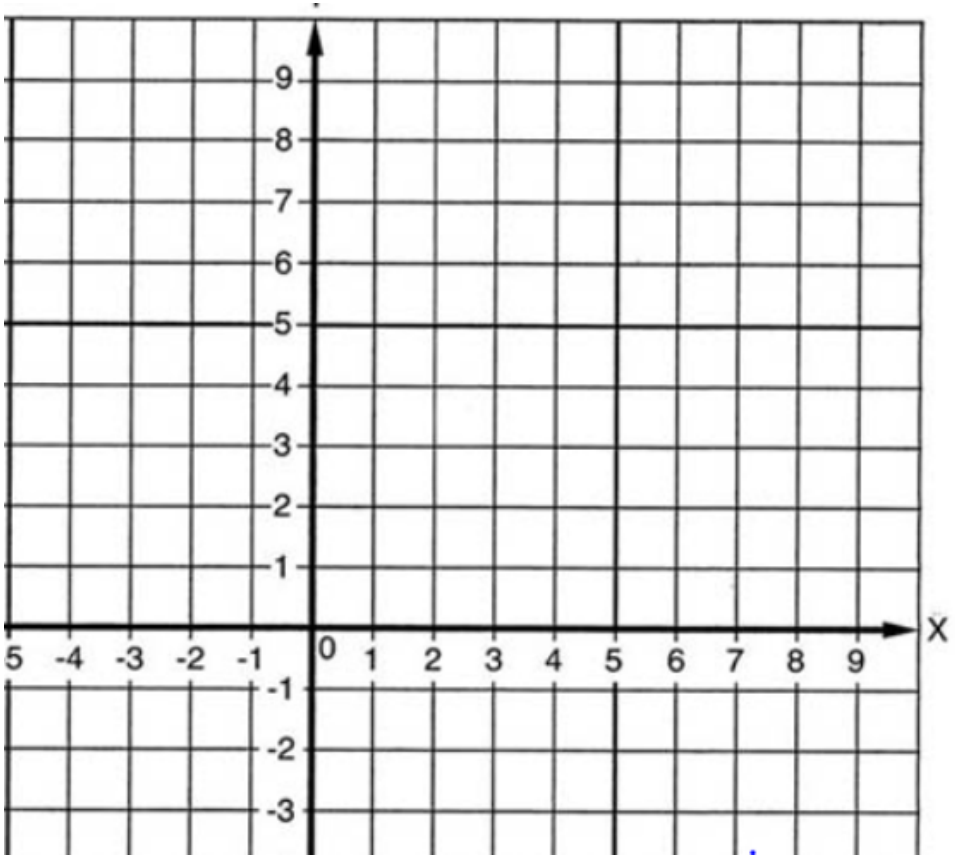


#20 and #21 Determine the location of the orthocenter and graph.

20. $X(-3, 2), Y(5, 2), Z(-3, 6)$

21. $A(-4, 0), B(1, 0), C(-1, 3)$




9
8
7
6
5
4
3
2
1
-1
-2
-3
X
5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9