

Geometry Honors - Review 5.1 to 5.4

NAME: _____

Write an equation in point-slope form for the perpendicular bisector of the segment with the given endpoints:

① $A(2,3), V(6,9)$

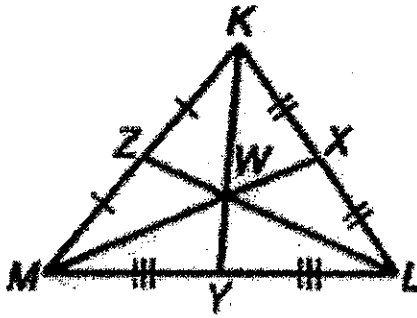
② $B(-2,6), K(4,3)$

Find the centroid of the triangle with the given vertices:

③ $A(1,2), B(6,9), C(11,1)$

④ $D(-5,-8), E(0,8), F(8,3)$

5



If $MX = 18$, $ZW = 5$ and $KW = 8$

Find:

MW

WX

WL

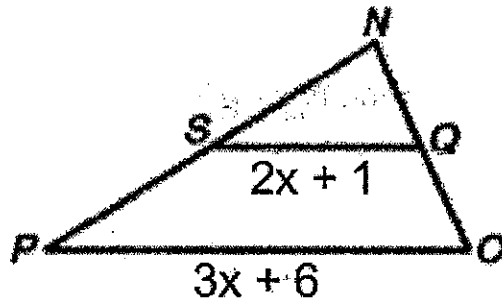
ZL

WY

KY

6

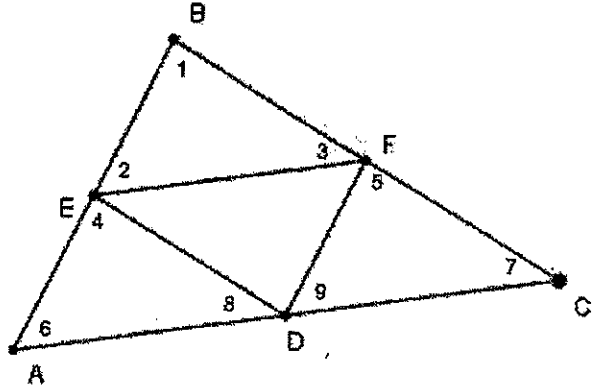
\overline{SQ} is a midsegment of $\triangle NOP$. What is the length of \overline{OP} ?



OP

7

Given: D is a midpoint of segment AC.
 E is a midpoint of segment AB.
 F is a midpoint of segment BC.
 Angle 2 measures 65 degrees.
 Angle 5 measures 75 degrees.
 Segment BF measures 8 units.
 Segment AC measures 20 units.
 Segment FD measures 6 units.



Find the following measures:

Angles:

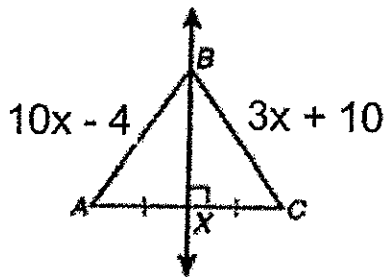
1 _____ 2 _____ 3 _____
 4 _____ 5 _____ 6 _____
 7 _____ 8 _____ 9 _____

Segments:

AB _____ BC _____ AC _____
 BE _____ BF _____ FE _____
 DE _____ DF _____ FC _____

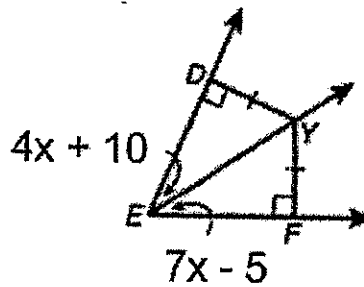
8

Find AB.



9

Find $m\angle DEY$.



AB = _____

$m\angle DEY$ _____

(STUDY GUIDE)
PART 1

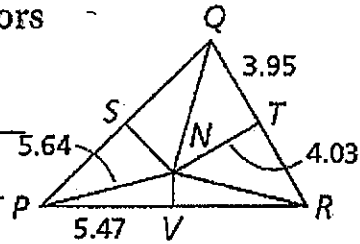
\overline{SN} , \overline{TN} , and \overline{VN} are the perpendicular bisectors of $\triangle PQR$. Find each length.

3. NR _____

4. RV _____

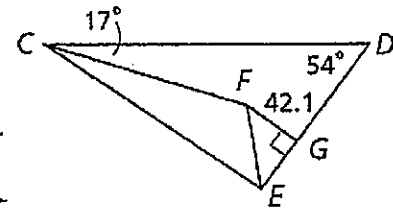
5. TR _____

6. QN _____



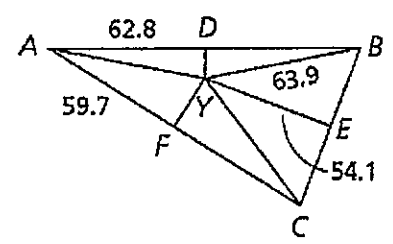
\overline{CF} and \overline{EF} are angle bisectors of $\triangle CDE$. Find each measure.

9. the distance from F to \overline{CD} _____
 10. $m\angle FED$ _____



\overline{DY} , \overline{EY} , and \overline{FY} are the perpendicular bisectors of $\triangle ABC$. Find each length.

12. CF _____ 13. YC _____
 14. DB _____ 15. AY _____



Multi-Step Find the circumcenter of a triangle with the given vertices.

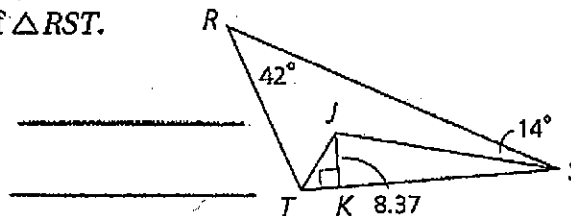
16. $M(-5, 0), N(0, 14), O(0, 0)$

17. $O(0, 0), V(0, 19), W(-3, 0)$

\overline{TJ} and \overline{SJ} are angle bisectors of $\triangle RST$.
 Find each measure.

18. the distance from J to \overline{RS} _____

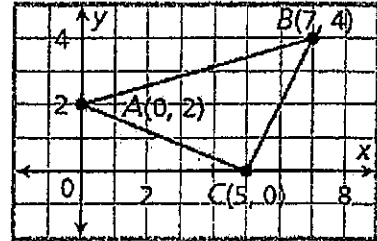
19. $m\angle RTJ$ _____



A music company has stores at $A(0, 0)$, $B(8, 0)$, and $C(4, 3)$, where each unit of the coordinate plane represents one mile.

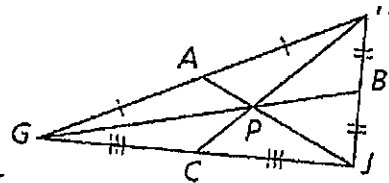
- A new store will be built so that it is equidistant from the three existing stores. Find the coordinates of the new store's location.
- Where will the new store be located in relation to $\triangle ABC$?
- To the nearest tenth of a mile, how far will the new store be from each of the existing stores?

7. **Design** The diagram shows a plan for a piece of a mobile. A chain will hang from the centroid of the triangle. At what coordinates should the artist attach the chain?



$PA = 2.9$, and $HC = 10.8$. Find each length.

12. PC _____ 13. HP _____
14. JA _____ 15. JP _____



16. **Design** In the plan for a table, the triangular top has coordinates $(0, 10)$, $(4, 0)$, and $(8, 14)$. The tabletop will rest on a single support placed beneath it. Where should the support be attached so that the table is balanced?

STUDY GUIDE
PART I

Algebra Find the centroid of a triangle with the given vertices.

27. $A(0, -4), B(14, 6), C(16, -8)$

28. $X(8, -1), Y(2, 7), Z(5, -3)$

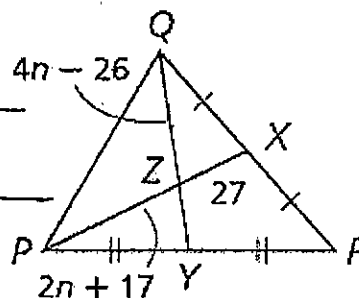
Find each length.

29. PZ _____

30. PX _____

31. QZ _____

32. YZ _____



In the diagram, the perpendicular bisectors (shown with dashed segments) of $\triangle ABC$ meet at point G —the circumcenter. and are shown dashed. Find the indicated measure.

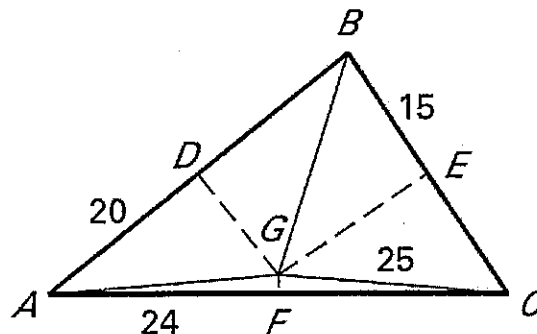
11. $AG =$ _____ 12. $BD =$ _____

13. $CF =$ _____ 14. $AB =$ _____

15. $CE =$ _____ 16. $AC =$ _____

17. $m\angle ADG =$ _____

18. If $BG = (2x - 15)$, find x .



$x =$ _____

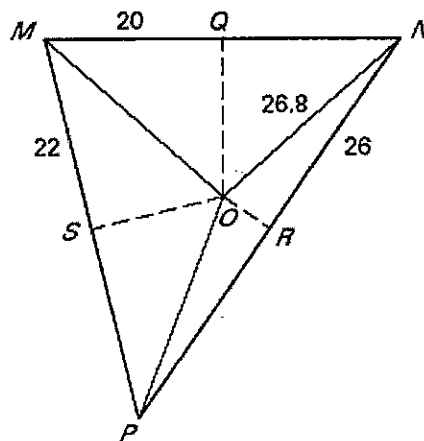
In the diagram, the perpendicular bisectors (shown with dashed segments) of $\triangle MNP$ meet at point O —the circumcenter. Find the indicated measure.

19. $MO =$ _____ 20. $PR =$ _____

21. $MN =$ _____ 22. $SP =$ _____

23. $m\angle MQO =$ _____

24. If $OP = 2x$, find x .



$x =$ _____