

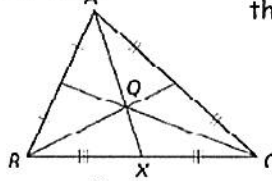
Name: _____

UNIT 3 REVIEW!

Aim: To review all the points of concurrency.

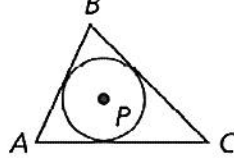
1. Point Q represents which point of concurrency?

- a. centroid
- b. incenter
- c. orthocenter
- d. circumcenter



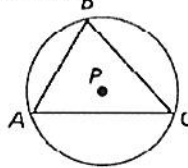
2. Point P represents which point of concurrency?

- a. centroid
- b. incenter
- c. orthocenter
- d. circumcenter



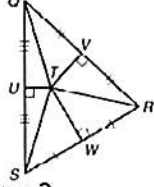
3. Point P represents which point of concurrency?

- a. centroid
- b. incenter
- c. orthocenter
- d. circumcenter



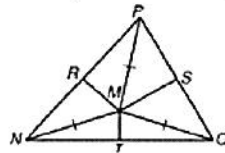
4. Point T represents which point of concurrency?

- a. centroid
- b. incenter
- c. orthocenter
- d. circumcenter



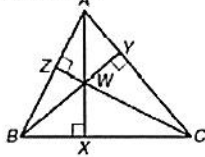
5. Point M represents which point of concurrency?

- a. centroid
- b. incenter
- c. orthocenter
- d. circumcenter



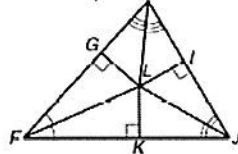
6. Point M represents which point of concurrency?

- a. centroid
- b. incenter
- c. orthocenter
- d. circumcenter



7. Point L represents which point of concurrency?

- a. centroid
- b. incenter
- c. orthocenter
- d. circumcenter



8. Which point of concurrency is the intersection of the medians of the triangle?

- a. centroid
- b. incenter
- c. orthocenter
- d. circumcenter

9. Which point of concurrency is the intersection of the altitudes of the triangle?

- a. centroid
- b. incenter
- c. orthocenter
- d. circumcenter

10. Which point of concurrency is equidistant from the three sides of a triangle?

- a. centroid
- b. incenter
- c. orthocenter
- d. circumcenter

11. Which point of concurrency is equidistant from the three vertices of a triangle?

- a. centroid
- b. incenter
- c. orthocenter
- d. circumcenter

12. Which point of concurrency is the center of gravity of a triangle?

- a. centroid
- b. incenter
- c. orthocenter
- d. circumcenter

13. Which point of concurrency is the intersection of the perpendicular bisectors of the triangle?

- a. centroid
- b. incenter
- c. orthocenter
- d. circumcenter

14. Which point of concurrency is the intersection of the angle bisectors of the triangle?

- a. centroid
- b. incenter
- c. orthocenter
- d. circumcenter

15. The centroid is _____ in the triangle.

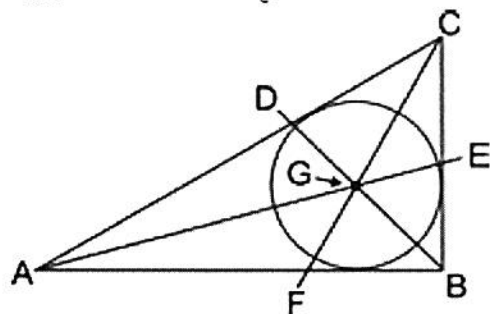
16. The incenter is _____ in the triangle.

- a. always
- b. sometimes
- c. never

17. The circumcenter is _____ in the triangle.

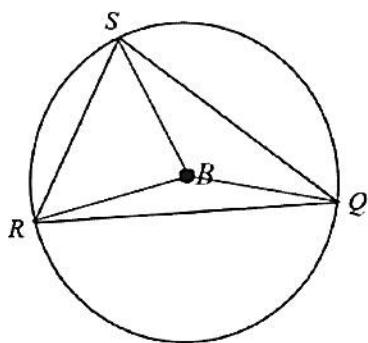
- a. always b. sometimes c. never

18. Consider the diagram below:



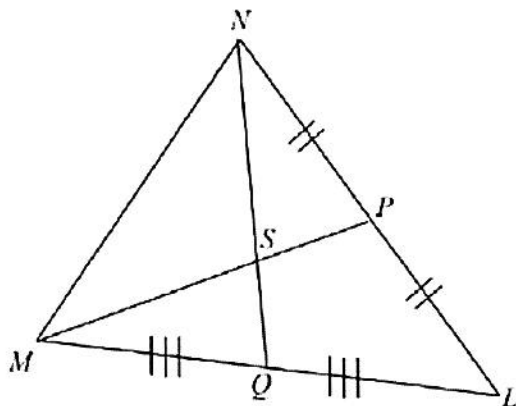
- a) What is the point G called?
 b) It must be that $\overline{GB} \cong \overline{GC}$ (TRUE / FALSE)
 c) It must be that $m\angle DCG = m\angle ECG$ (TRUE / FALSE)
 d) It must be that $m\angle ABD = m\angle CBD$ (TRUE / FALSE)
 e) If $m\angle DAF = 25^\circ$, and $m\angle DCG = 29^\circ$, what is $m\angle ABD$?

19. Consider the diagram below:



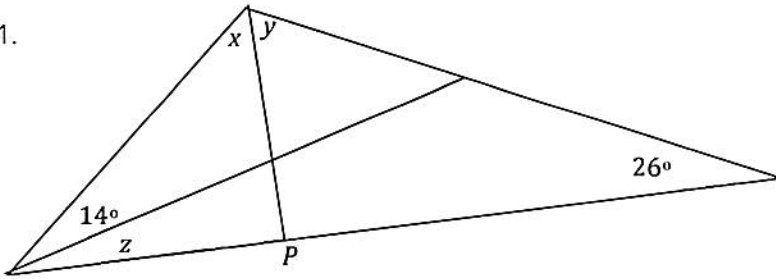
- a) What is the point B called?
 b) It must be that $\overline{SB} \cong \overline{RB} \cong \overline{QB}$ (TRUE / FALSE)
 c) It must be that $m\angle SQB = m\angle RQB$ (TRUE / FALSE)
 d) B would be located outside of the triangle if the triangle was...
 (1) acute (2) obtuse
 e) If this were a right triangle, then B would be located:
 (1) On the hypotenuse of the triangle
 (2) On the vertex of the right angle of the triangle

20. Consider the diagram below:



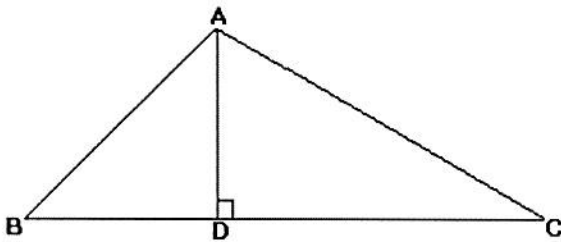
- a) What is the point S called?
 b) If $m\overline{NQ} = 24$, find $m\overline{NS}$ and $m\overline{SQ}$.
 c) If $m\overline{SP} = 7$, find $m\overline{MS}$ and $m\overline{MP}$.
 d) It must be that $\overline{SP} \cong \overline{SQ}$ (TRUE / FALSE)
 e) It must be that $\angle MNQ \cong \angle QNL$ (TRUE / FALSE)

21.



What is the measure of angles x , y , and z ?

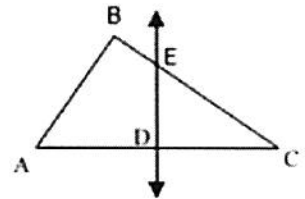
22.



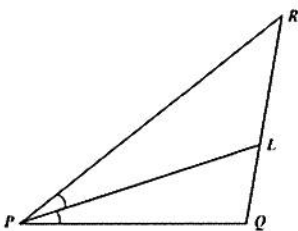
In the above triangle, AD is an altitude. If the measure of angle BDA is $7x+6$, what is the value of x ?

23.

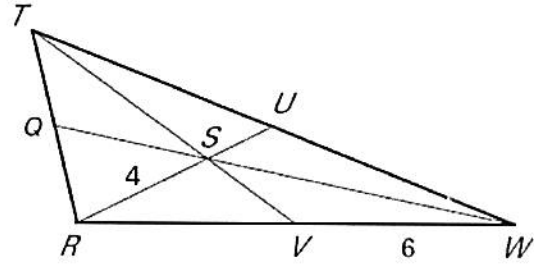
In $\triangle ABC$, \overline{DE} is perpendicular bisector of \overline{AC} with D on \overline{AC} . If $AD = 2y + 4$, $CD = y + 12$, and $m\angle EDC = 5(x - 12)^\circ$. Find the value of x and y . Find length of AD , DC , and AC .



24. In the triangle below, angle bisector PL is shown. If the measure of angle RPL is $2x + 14$ and the measure of angle $L PQ$ is $8x - 4$. What is the value of x and what is the measure of angle RPL ?



Point S is the centroid of $\triangle RTW$, $RS = 4$, $VW = 6$, and $TV = 9$. Find the length of each segment.

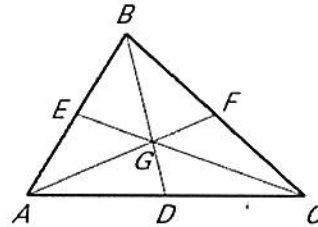


33. $RV =$ _____ 34. $SU =$ _____

35. $RU =$ _____ 36. $RW =$ _____

37. $TS =$ _____ 38. $SV =$ _____

Point G is the centroid of $\triangle ABC$. Use the given information to find the value of the variable.



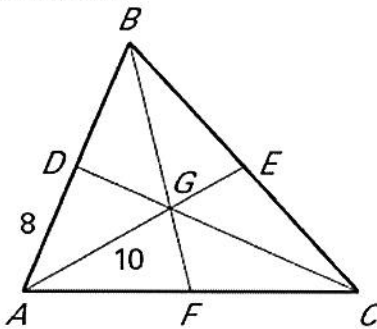
39. $FG = x + 8$ and $GA = 6x - 4$

$x =$ _____

40. If $CG = 3y + 7$ and $CE = 6y$

$y =$ _____

Point G is the centroid of $\triangle ABC$, $AD = 8$, $AG = 10$, $BE = 10$, $AC = 16$ and $CD = 18$. Find the length of each segment.



25. $DB =$ _____ 26. $EA =$ _____

27. $CG =$ _____ 28. $BA =$ _____

29. $GE =$ _____ 30. $GD =$ _____

31. $BC =$ _____ 32. $AF =$ _____