Review: Properties of Triangles

Name: _____

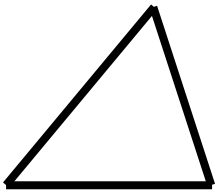
Vocabulary: Match each word with its definition.

1. _____ Three or more lines that intersect at one point
2. _____ A perpendicular segment from a vertex to the line containing the opposite side
3. _____ The same distance from two or more objects
4. _____ A line that divides an angle of a triangle into two equal parts
5. _____ A segment that joins the midpoints of two sides of a triangle
6. _____ A line that intersects a segment at its midpoint and forms right angles at that intersection
7. _____ A line that connects the midpoint of one side of a triangle to the opposite vertex

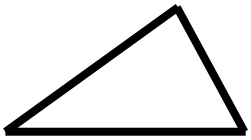
A. Triangle Midsegment
B. Concurrent
C. Altitude
D. Perpendicular Bistector
E. Median
F. Angle Bisector
G. Equidistant

#8 – 11. Draw each of the following on the triangle below.

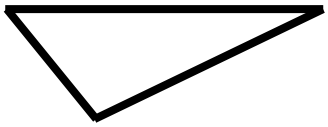
8. Altitude



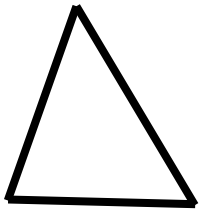
9. Median



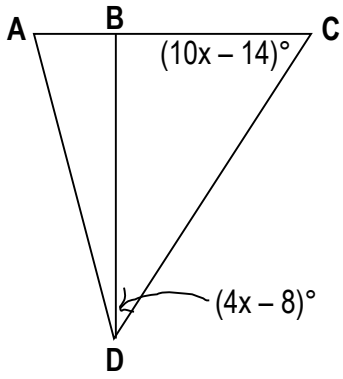
10. Perpendicular Bisector



11. Angle Bisector

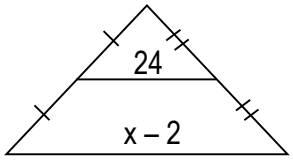


12. DB is an altitude of ΔDAC. Find the value of x.



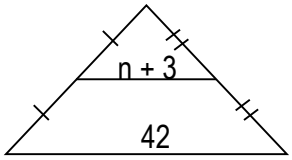
x = _____

13. Find the value of x in the triangle.



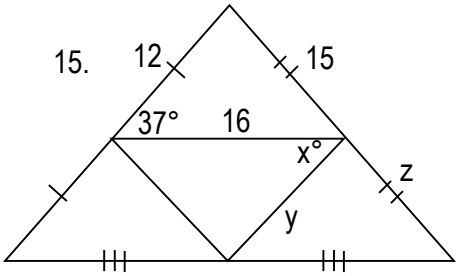
x = _____

14. Find the value of n in the triangle.



n = _____

15.

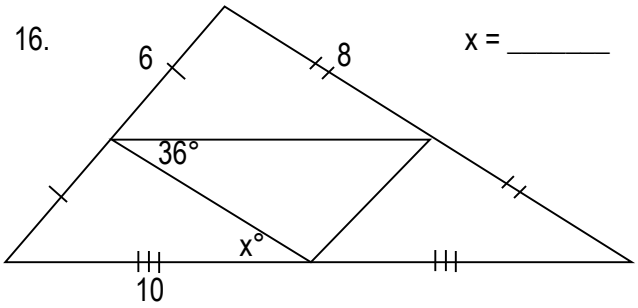


x = _____

y = _____

z = _____

16.



x = _____

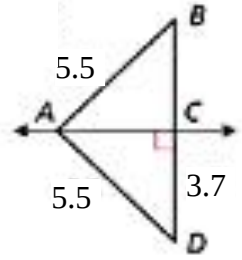
Write an equation in point-slope form for the perpendicular bisector of the segment with the given endpoints.

17. P(5,2) and Q(1, –4)

18. A(–4, 5) and B(6,–5)

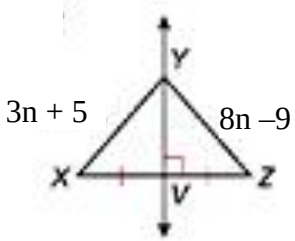
#28 – 29. Find each measure.

19.



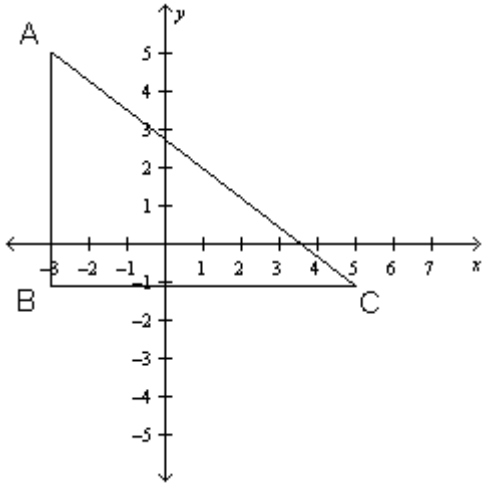
BD = _____

20.

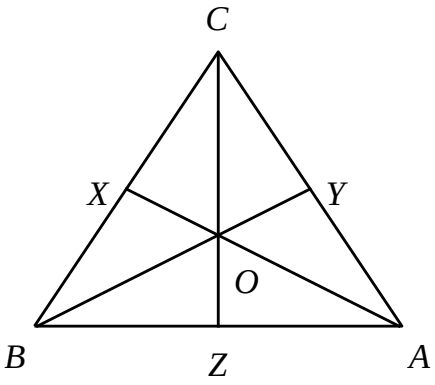


YZ = _____

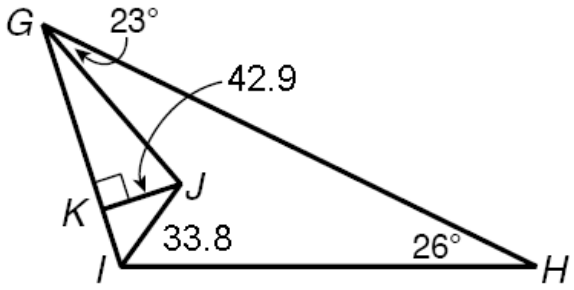
21. Find the circumcenter (point of concurrency of the ⊥ bisectors) of ΔABC with vertices A (-3, 5), B (-3, -1), C (5, -1).



22. In ΔABC, $\overline{CZ}$, $\overline{BY}$, and $\overline{XA}$ are medians – point O is the centroid of the triangle. XA = 36 and OY = 12. Find BO.



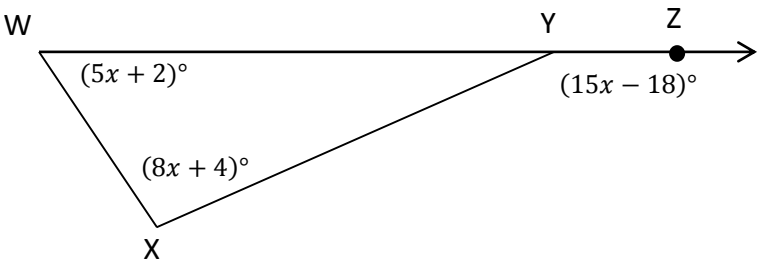
23. *GJ* and *IJ* are angle bisectors of ΔGHI. Find the distance from J to GH.



Find each angle measure.

24. $m\angle XYZ$ = _____

25. $m\angle XYW$ = _____



26. Find the value of x and the measure of ∠ACB.