Name: _____ Date: _____ Period: _____

Geometry CP – Section 5.1 – Practice A

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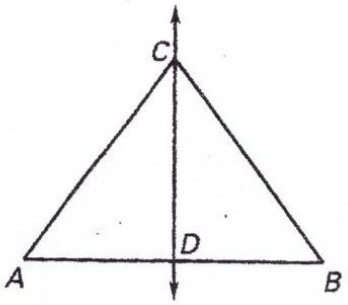
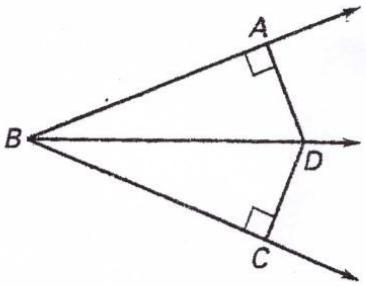
Use the diagram shown. $\overleftrightarrow{CD}$ is the perpendicular bisector of $\overline{AB}$.



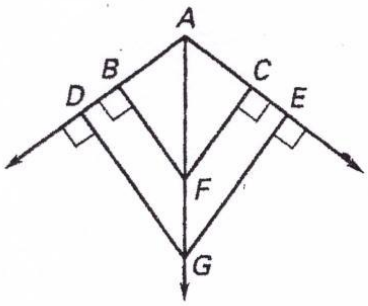
1. What is the relationship between AD and AB?
2. What is the relationship between $\angle ADC$ and $\angle BDC$?
3. What is the relationship between AC and CB? Explain.
4. ***True or False?*** Because $\overleftrightarrow{CD}$ is the perpendicular bisector of $\overline{AB}$, $\overline{AC} \cong \overline{AD}$.

Use the diagram shown. $\overrightarrow{BD}$ is the angle bisector of $\triangle ABC$.



5. What is the relationship between $\angle ABD$ and $\angle CBD$?
6. What is the relationship between $\angle DAB$ and $\angle DCB$?
7. What is the relationship between AD and CD? Explain.
8. ***True or False?*** Because $\overrightarrow{BD}$ is the angle bisector of $\angle ABC$, $\overline{AB} \cong \overline{CB}$.

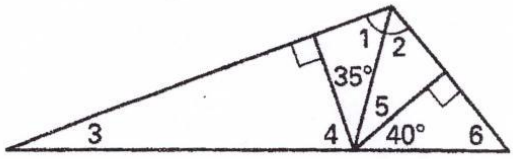
Use the diagram to answer the following. In the diagram, *F* is on the bisector of $\angle DAE$.



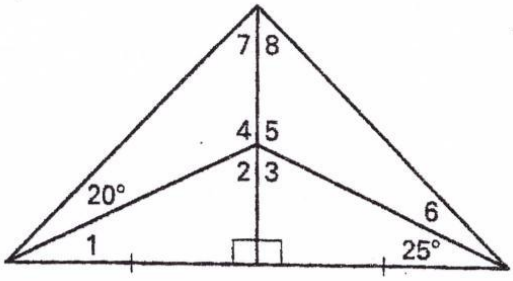
9. If $m\angle BAF = 54°$, then $m\angle CAF =$ ___?___.
10. If $FC = 16$, then $FB =$ ___?___.
11. If $\overline{GD} \cong \overline{GE}$, then what can you conclude about point G?
12. Is $\triangle ABF \cong \triangle ACF$? Explain.

Find the measure of the numbered angles.

13.



14.



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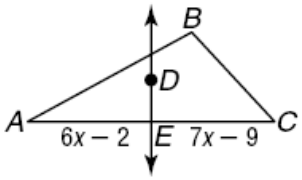
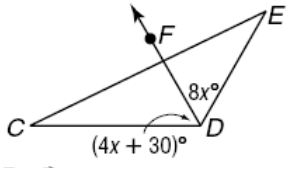
Geometry CP - Section 5.1 – Practice B

1. $\overleftrightarrow{DE}$ is the perpendicular bisector of $\overline{AC}$. Solve for x.



2. $\overleftrightarrow{DF}$ bisects $\angle CDE$. Solve for x.



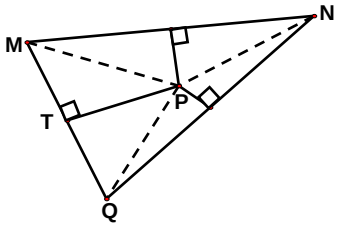
3. For what kinds of triangle(s) can the perpendicular bisector of a side also be an angle bisector? _____

4. Describe the location of the incenter of a triangle. _____

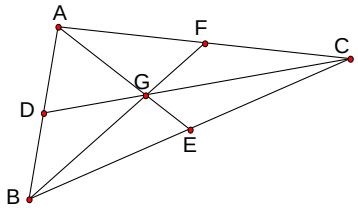
5. For what kind of triangle is the circumcenter located outside of the triangle? _____

6. P is the circumcenter of ΔMNQ. If PQ = 10 and MQ = 12, then find PM _____ PN _____ TQ _____ and PT _____

If m∠TPQ = 35°, then m∠PQT = _____

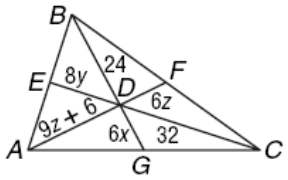


6. G is the centroid of ΔABC.



a. If AC = 32, then AF = _____
b. If AE = 18, then AG = ____ and GE = ____
c. If DG = 4, then GC = ____ and DC = ____

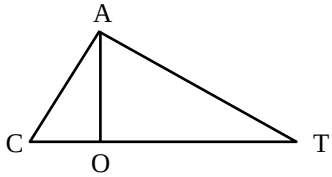
7. D is the centroid of ΔABC. Solve for x, y, and z.



8. For what kind of triangle are the medians and angle bisectors the same segments? _____

9. For what kind of triangle is the centroid outside of the triangle? _____

10. $\overline{AX}$ is an altitude of ΔCAT. If AO = 5 and OT = 12



a. Find AT
b. If m∠C = (9x + 38)° and m∠CAO = 17x°, solve for x.

11. Where is the orthocenter located in ΔDUH?