Geometry (H) Name: _____
Chapter 6 review 2

1. Is it possible for a triangle to have sides with the lengths indicated? Write yes or no.

   a. 12, 11, 4 b. $\sqrt{2}, \sqrt{3}, \sqrt{6}$ c, 5, 5, 15 d. ½, ¼, 1/3

2. Complete each statement by writing <, =, or >.

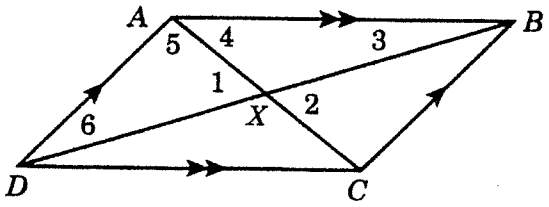
   a. AX _____ XC

   b. m∠ADC _____ m∠6

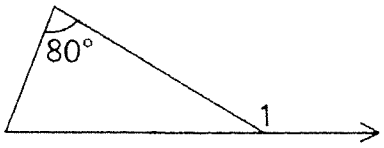
   c. DX _____ DB

   d. m∠4 _____ m∠2

   e. AD _____ BC

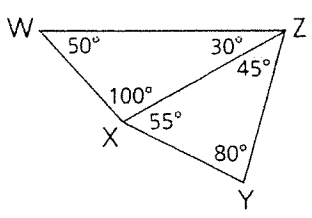


3. What are the restrictions on ∠1?

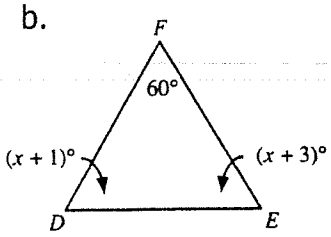


4. Name the longest segment in each diagram.

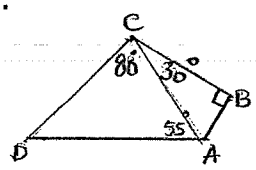
   a.



   b.



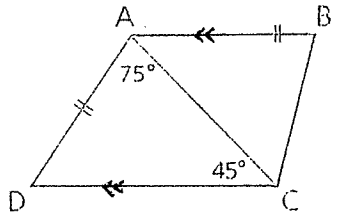
   c.



5. The sides of a triangle are x, x, and 14. Find the possible values of x.

6. A stick 8 cm long is cut into 3 pieces of integral lengths to be assembled as a triangle. What is the length of the shortest piece?

7. Given: $\overline{AB} \parallel \overline{CD}$, $\overline{AB} \cong \overline{AD}$, $\angle DAC = 75°$, $\angle DCA = 45°$



Which is longer, $\overline{BC}$ or $\overline{DC}$?

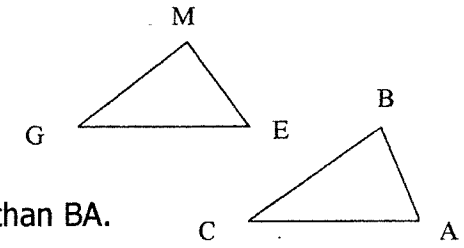
8. Decide if the following statements are sometimes, always or never true.

a. The first step in an indirect proof is to assume the negation of the given.

b. If two isosceles triangles have congruent legs but noncongruent bases, then the triangle with longer base has the smaller base angles.

c. The altitude to the base of an isosceles triangle is longer than a leg of the triangle.

For d – k, use the diagram at the right.



d. If GM = CB and GE = CA, then $m\angle G$ is equal to $m\angle C$.

e. If GM = CB, GE = CA and $m\angle G < m\angle C$, then ME is less than BA.

f. If $m\angle A < m\angle E$, then BC is less than GM.

g. If $m\angle A < m\angle E$ and $m\angle B < m\angle M$, then $m\angle C$ is less than $m\angle G$.

h. If AC > EG and AB > EM, then BC is greater than MG.

i. If AC = EG, AB = EM and BC = MG, then $m\angle A$ is equal to the $m\angle E$.

j. If GM = CB, ME = BA, and $m\angle M < m\angle B$, then GE is greater than AC.

k. If GM > CB and GE > CA, then ME is greater than AB.