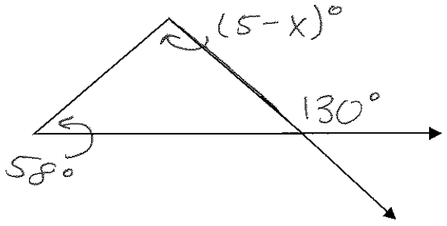
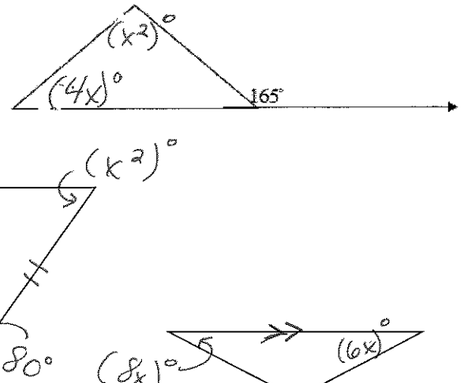
5.1

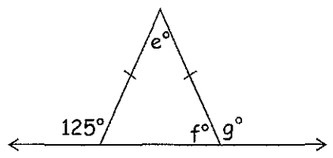
Classifying Triangles
Bernhard – GT GEOMETRY

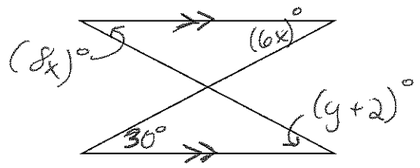
Name _____

1.Find the value of each variable.









2. Answer each of the following statements with AT (always true), ST(sometimes true) or NT (never true).

_____a) An equiangular triangle is isosceles.

_____b) An isosceles triangle is equilateral.

_____c) A triangle has two acute angles.

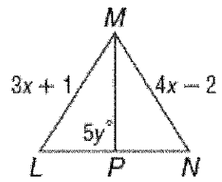
_____d) Two interior angles of a triangle are supplementary.

3. Triangle LMN is equilateral and MP bisects LN. Find the value of each variable and the length of each side of the triangle. Show all work.

x = _____ y = _____

LM = _____ MN = _____

LN = _____



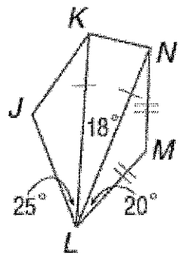
4. ΔKLN and ΔLMN are isosceles and m∠JKN = 130. Find each measure. Show all work.

m∠LNM = _____

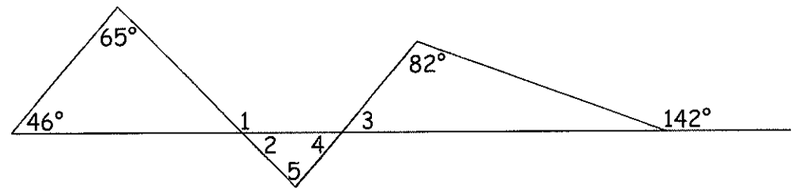
m∠M = _____

m∠LKN = _____

m∠J = _____



5. Find the measure of each angle (in the order shown). State the theorem or postulate used.



$m\angle 1 =$ _____ *by* _____

$m\angle 2 =$ _____ *by* _____

$m\angle 3 =$ _____ *by* _____

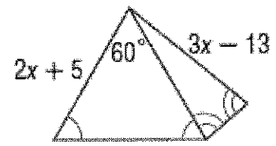
$m\angle 4 =$ _____ *by* _____

$m\angle 5 =$ _____ *by* _____

6. What are the measures of the two acute interior angles of an isosceles right triangle?

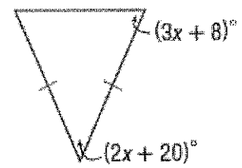
For #7-9, find x. Show all work.

7.



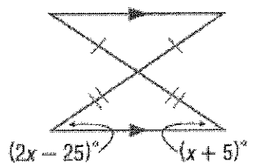
x = _____

8.



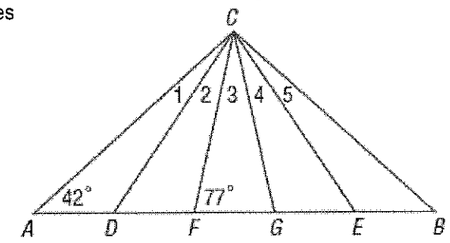
x = _____

9.



x = _____

10. In the figure, ΔABC is isosceles, ΔDCE is equilateral, and ΔFCG is isosceles. Label all congruent sides and angles. Find the measures of the five numbered angles



m∠1 = _____

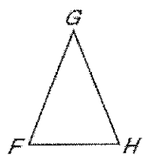
m∠2 = _____

m∠3 = _____

m∠4 = _____

m∠5 = _____

11. Triangle GHF is equiangular with m∠F = (3x+4)°, m∠G = (6y)° and m∠H = (19z+3)°. What are the values of x, y, and z? Show all work.



x = _____ y = _____

z = _____