NAME __Key__   Date _____ HR ____

Quiz Review CYU 6.1 – 6.3

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Properties of perpendicular bisector	1		14
Properties of angle bisector	2, 3		13a
Properties of median			14
Properties of altitude			
Characteristics of the circumcenter			4, 5, 14
Characteristics of the incenter		6, 7, 8	
Characteristics of the centroid			9, 10, 14
Location of the orthocenter		11, 12	
Determining the POC			13a
Congruent Triangles: SAS, SSS, HL, AAS, ASA			13b
Pythagorean Theorem		13b	

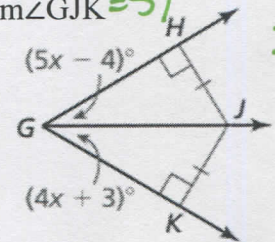*Find the indicated measure. Explain your reasoning.*

1. UV $= 15$
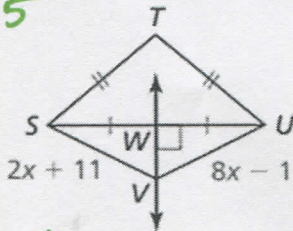
⊥ Bisector Thm

2. QP $= 18$

$6x$ $3x + 9$
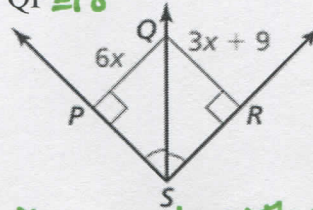
∡ Bisector Thm

3. m∠GJK $= 59°$

$(5x - 4)°$

$(4x + 3)°$

∡ Bisector Thm

△ Sum Thm

Find the coordinates of the circumcenter of the triangle with the given vertices.
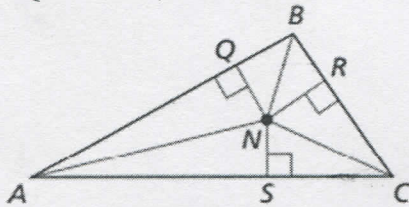
4. A(- 4, 2), B(- 4, - 4), C(0, - 4)

$(-2, -1)$

5. D(3, 5), E(7, 9), F(11, 5)
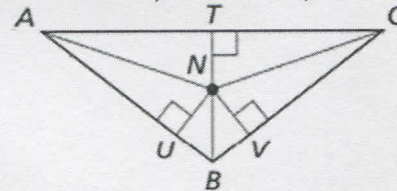
$(7, 5)$

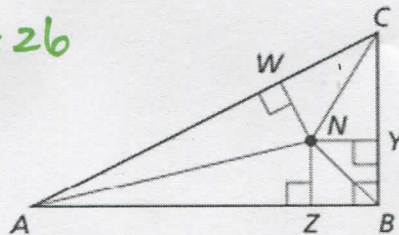*The incenter of △ABC is point N. Use the given information to find the indicated measure.*

6. NQ = 2x + 1, NR = 4x – 9. Find NS $= 11$

7. NU = - 3x + 6, NV = - 5x, Find NT. $= 15$

8. NZ = 4x – 10, NY = 3x – 1. Find NW $= 26$

Find the coordinates of the centroid of the triangle with the given vertices.

9. J(- 1, 2), K(5, 6), L(5, - 2)

$(3, 2)$

10. M(- 8, - 6), N(- 4, - 2), P(0, - 4)

$(-4, -4)$

Tell whether the orthocenter is inside, on, or outside the triangle. Then find its coordinates.

11. T(- 2, 5), U(0, 1), V(2, 5)

inside; $(0, 4)$

12. X(- 1, - 4), Y(7, - 4), Z(7, 4)

on; $(7, -4)$

13. A woodworker is cutting the largest wheel possible from a triangular scrap of wood. The wheel just touches each side of the triangle, as shown.
   a) Which point of concurrency is the center of the circle? What type of segments are $\overline{BG}, \overline{CG}, \& \overline{AG}$?
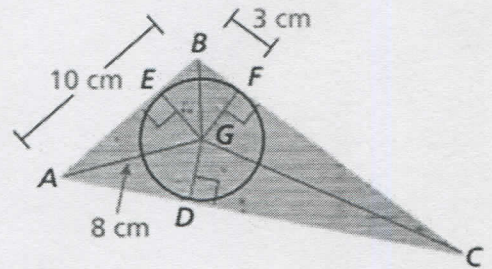
   incenter; ∠ bisectors

   b) Which theorem can you use to prove that $\triangle BGF \cong \triangle BGE$?

   HL ≅ Thm

3 cm
10 cm E B F
A G
8 cm D
C

   c) Find the radius of the wheel to the nearest tenth of a centimeter. Justify your answer.

   r = 3.9 cm; CPCTC

14. The Deer County Parks Committee plans to build a park at point P, equidistant from the three largest cities labeled X, Y, and Z. The map shown was created by the committee.
   a) Which point of concurrency did the committee use as the location of the park?

   centroid

Deer County
Z
P
X Y

   b) Did the committee use the best point of concurrency for the location of the park? If not, which point would be better to use? Explain.

   NO, should have been the circumcenter.
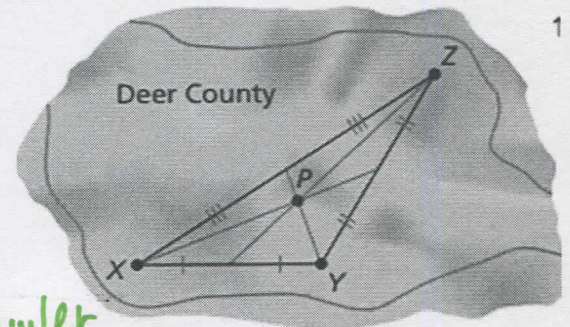
CYU Reflection: *How far can you go: basic, intermediate, or advanced?*
Rate your mastery level!

How confident are you with the skills this CYU

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
Basic   Intermediate   Advanced Solved ALL!