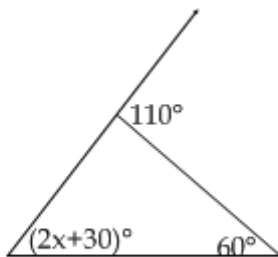


Name: \_\_\_\_\_  
Triangles: Review Sheet

Date: \_\_\_\_\_ Period: \_\_\_\_\_

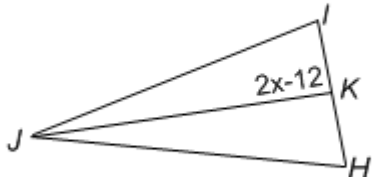
Triangles: Review Sheet

1. The measures of the angles of a triangle are represented by  $5x-7$ ,  $7x+6$ , and  $4x-11$ . Classify this triangle.
2. In isosceles triangle ABC,  $\overline{AC} \cong \overline{CB}$ . If  $AC = 5x$  and  $CB = 2x + 30$ , find the value of  $x$  and the length of  $AC$ .
3. In isosceles triangle ABC,  $\overline{AB} \cong \overline{BC}$ . If  $AB = 5x+10$ ,  $BC = 3x+40$ , and  $AC = 2x+30$ , find the length of each side of the triangle.
4. In triangle EFG,  $\overline{EF} \cong \overline{FG}$ . If  $m\angle E = 4x+50$ ,  $m\angle F = 2x+60$ , and  $m\angle G = 14x+30$ , find  $m\angle E$ ,  $m\angle F$ , and  $m\angle G$ .
5. In triangle ABC,  $\overline{AB} \cong \overline{BC}$ . If  $m\angle A = 7x$  and  $m\angle C = 2x+50$ , find  $m\angle A$  and  $m\angle C$ .
6. Given equilateral triangle FGH with  $\overline{FG} = 2y+5$ ,  $\overline{GH} = 3y-3$ , and  $\overline{FH} = 5y-19$ , what is the measure of each side of the triangle.
7. The measure of the larger acute angle of a right triangle is two times the measure of the smaller acute angle. Find the measure of each angle.
8. The measures of the angles of a triangle are in the ratio 2:3:1. Find each angle of the triangle. Classify the triangle.
9. The measure of the vertex angle of an isosceles triangle exceeds the base angles by 12. What are the measures of all of the angles of the triangle?
10. Find the value of  $x$  in the diagram below.

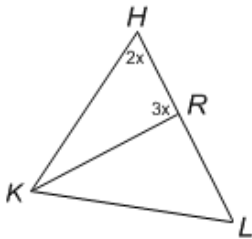


11. In triangle ABC,  $m\angle A = 9x$ ,  $m\angle B = 3x-6$ , and  $m\angle C = 11x+2$ , show that triangle ABC is a right triangle.
12. The measure of the vertex angle of an isosceles triangle exceeds the measure of each base angle by 30. Find the measure of each angle of the triangle.
13. Can  $55^\circ$ ,  $45^\circ$ , and  $90^\circ$  represent the measures of the three angles of a triangle? Why or why not?
14. In  $\triangle ABC$ ,  $\overline{AC} \cong \overline{BC}$ . The measure of an exterior angle at vertex C is represented by  $5x+10$ . If  $\angle A$  measure 30, find the value of  $x$ .
15. In  $\triangle DEF$ ,  $m\angle D = 2x+4$ ,  $m\angle E = 6x - 58$ . The measure of an exterior angle at F is represented by  $5x$ . Find the value of  $x$ .
16. In  $\triangle ABC$ ,  $m\angle C = 90$  and  $m\angle B = 35$ . Name the shortest side of the triangle.
17. If in  $\triangle RST$ ,  $m\angle R = 71$  and  $m\angle S = 37$ , then:  
 (a)  $ST > RS$                       (b)  $RS > RT$                       (c)  $RS = ST$                       (d)  $RT > ST$
18. In  $\triangle ABC$ ,  $m\angle A = 74$  and  $m\angle B = 58$ . Which is the longest side of the triangle?
19. Which of the following number triples can *not* represent the length of the units of the sides of a triangle?  
 (a) (2, 3, 4)                      (b) (3, 1, 1)                      (c) (3, 4, 5)                      (d) (3, 4, 4)
20. In triangle ABC,  $AB = 8$ ,  $BC = 10$ , and  $CA = 14$ . Name the largest angle of the triangle. What is the smallest angle of the triangle?
21. In triangle ABC, medians  $\overline{AD}$ ,  $\overline{BE}$ , and  $\overline{CF}$  are concurrent at point P. If  $AP = 8$ , find the length of median  $\overline{AD}$ .
22. In triangle ABC, medians  $\overline{AD}$ ,  $\overline{BE}$ , and  $\overline{CF}$  are concurrent at point P. If  $AP=7x+1$  and  $DP = 4x-2$ , then what is the value of  $x$ ?
23. The circumcenter of  $\triangle ABC$  is point P. If  $AP = x+2y$ ,  $BP = 40$ , and  $CP = x + 4$ , find  $x$  and  $y$ .
24. In triangle ABC, CD is median to side AB. If  $AB = 16$  and  $BD = 2x$ , what is the value of  $x$ ?

25. In the diagram below JK is an altitude. Find the value of x.



26. In triangle HKL,  $m\angle HKL = 80^\circ$ . KR is an angle bisector. What is the value of x?



\*\*\*In addition to these problems, you must know where the points of concurrency meet in certain types of triangles. For example, the centroid is always located inside the triangle. Refer back to your points of concurrency packet for this\*\*\*