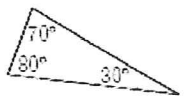
Acc Geometry
4.1 & 4.2 Practice

Name Key
Date

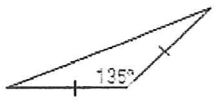
1. Supply the correct numbers to complete each sentence.
   a. In an obtuse triangle, there are 2 acute angle(s), 0 right angle(s), and 1 obtuse angle(s).
   b. In an acute triangle, there are 3 acute angle(s), 0 right angle(s), and 0 obtuse angle(s).
   c. In a right triangle, there are 2 acute angle(s), 1 right angle(s), and 0 obtuse angle(s).

2. Determine whether each statement is *always*, *sometimes*, or *never* true.
   a. A right triangle is scalene. sometimes
   b. An obtuse triangle is isosceles. sometimes
   c. An equilateral triangle is a right triangle. never
   d. An equilateral triangle is isosceles. always
   e. An acute triangle is isosceles. sometimes
   f. A scalene triangle is obtuse. sometimes

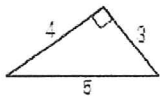
3. Describe each triangle by as many of the following words as apply: *acute*, *obtuse*, *right*, *scalene*, *isosceles*, or *equilateral*.

a. 

acute, scalene

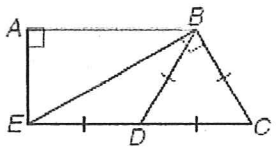
b. 

obtuse; isosceles

c. 

right, scalene

Identify the indicated type of triangles.



4. right
△ABE, △EBC

5. isosceles
△EBD, △BDC

6. scalene
△AEB, △BCE

7. obtuse
△EDB

8. Find the measure of each side of equilateral $\triangle RST$ with $RS = 2x + 2$, $ST = 3x$, and $TR = 5x - 4$.
6

9. Find the measure of each side of isosceles $\triangle ABC$ with $AB = BC$ if $AB = 4y$, $BC = 3y + 2$, and $AC = 3y$.
AB = BC = 8 AC = 6

Find the measures of the sides of $\triangle RST$ and classify each triangle by its sides.

10. $R(0, 2), S(2, 5), T(4, 2)$

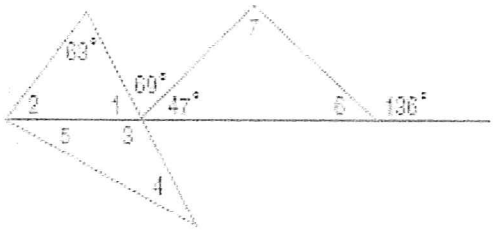
RS = $\sqrt{13}$ ST = $\sqrt{13}$ RT= 4 Classification: isosceles

11. $R(1, 3), S(4, 7), T(5, 4)$

RS = 5 ST = $\sqrt{10}$ RT= $\sqrt{17}$ Classification: scalene

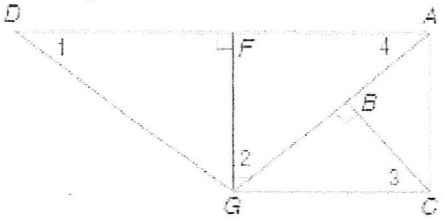
Find each measure if $m\angle 4 = m\angle 5$.

12. $m\angle 1$ 64
13. $m\angle 3$ 116
14. $m\angle 5$ 32
15. $m\angle 2$ 53
16. $m\angle 4$ 32
17. $m\angle 6$ 44



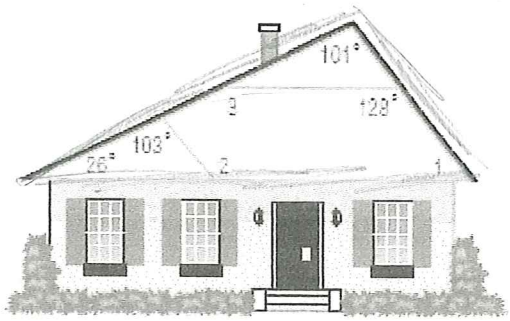
Find each measure if $m\angle DGF = 53$ and $m\angle AGC = 40$.

18. $m\angle 1$ 37
19. $m\angle 2$ 50
20. $m\angle 3$ 50
21. $m\angle 4$ 40

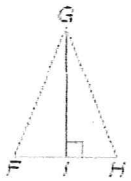


HOUSING For Exercises 27–29, use the following information.
The two braces for the roof of a house form triangles. Find each measure.

22. $m\angle 1$ 53
23. $m\angle 2$ 129
24. $m\angle 3$ 153



25. Given: $\angle FGI \cong \angle IGH$
$\overline{GI} \perp \overline{FH}$
Prove: $\angle F \cong \angle H$



Statements	Justifications
① $\angle FGI \cong \angle IGH$, $\overline{GI} \perp \overline{FH}$	① given
② $m\angle GIF = 90$, $m\angle GIH = 90$	② Def of $\perp$
③ $\angle F + \angle FGI + \angle GIF = 180$, $\angle H + \angle IGH + \angle GIH = 180$	③ $\triangle$ Sum Theorem
④ $\angle F + \angle FGI + \angle GIF = \angle H + \angle IGH + \angle GIH$	④ Substitution
⑤ $\angle F + \angle FGI + 90 = \angle H + \angle FGI + 90$	⑤ Substitution
⑥ $\angle F = \angle H$	⑥ Subtraction