*X* 90**°**

60**°**

30**°**

All three angles are congruent, so all three angles have measure 60°.

The triangle is an equiangular triangle.

**Classify Triangles by Angles** One way to classify a triangle is by the measures of its angles.

**Study Guide and Intervention**

***Classifying Triangles***

• If *one* of the angles of a triangle is a right angle, then the triangle is a **right triangle**.

• If *one* of the angles of a triangle is an obtuse angle, then the triangle is an **obtuse triangle**.

**•** If *all three* angles of an acute triangle are congruent, then the triangle is an **equiangular triangle**.

• If *all three* of the angles of a triangle are acute angles, then the triangle is an **acute triangle**.

**Lesson 4-1**

*Glencoe Geometry*

Chapter 4

**5**

*V*

*U*

*Y*

65**°** 65**°**

*F*

45**°**

92**°** *D*

28**°**

50**°**

45**°**

*T*

**6.**

*W*

**5.**

**4.**

*B*

60**°**

*S*

*R*

60**°** 60**°**

*M*

23**°**

*L* 90**°**

120**°**

*P*

67**°**

30**°**

*O*

*Q*

**3.**

**2.** *N*

**1**. *K*

**Exercises**

**Classify each triangle as *acute*, *equiangular*, *obtuse*, or *right*.**

The triangle has one right angle. It is a right triangle.

*J*

*H*

30**°**

60**°**

*G*

90**°**

**c.**

The triangle has one angle that is obtuse. It is an obtuse triangle.

*F*

*D*

25**°**

35**°**

**b.**

*E*

120**°**

*C*

*B*

60**°**

*A*

**a.**

**Classify each triangle.**

**Example**

**4-1**

NAME DATE PERIOD



*T*

**7. ALGEBRA** Find *x* and the length of each



**Study Guide and Intervention** *(continued)*

***Classifying Triangles***

• If *no two* sides of a triangle are congruent, then the triangle is a **scalene triangle**.

**•** If *at least two* sides of a triangle are congruent, then the triangle is an **isosceles triangle**.

Equilateral triangles can also be considered isosceles.

• If *all three* sides of a triangle are congruent, then the triangle is an **equilateral triangle**.

*Glencoe Geometry*

Chapter 4

**6**

3*y*

*C*

*A*

3*x*

*S*

3*y* **+** 2

4*y*

5*x –* 4

2*x* **+** 2

*R*

*B*

*AB* = *BC*.

side if *RST* is an equilateral triangle.



**8. ALGEBRA** Find *x* and the length of each side if *ABC* is isosceles with



*U*

*W*

*F*

32*x*

*x*

*x*

*A*

*E*

*S*

**6.** *D*

32*x*

**5.**

**4.**

*x*

*B*

8*x*

*C*

18

19

*I*

*K*

*O*

*Q*

*G*

18

18

12

17

2

*G*

*A*

1

*C*

*M*

**3.**

**2.**

**1.**

**Exercises**

**Classify each triangle as *equilateral*, *isosceles*, or *scalene*.**

The triangle has no pair

of congruent sides. It is a scalene triangle.

All three sides are

congruent. The triangle

is an equilateral triangle.

Two sides are congruent.

The triangle is an isosceles triangle.

15

*P*

*R*

*J*

*L*

*V*

*X*

12

23

*H*

*T*

*N*

**c.**

**b.**

**a.**

**Classify each triangle.**

**Example**

**Classify Triangles by Sides** You can classify a triangle by the number of congruent sides. Equal numbers of hash marks indicate congruent sides.

**4-1**

NAME DATE PERIOD

