

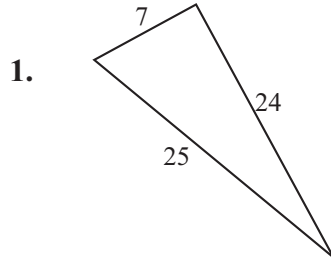
Independent Practice

8.4

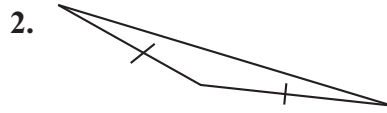
NAME _____

Module 8 Points, Lines, Angles, and Triangles
Lesson 4 Triangles

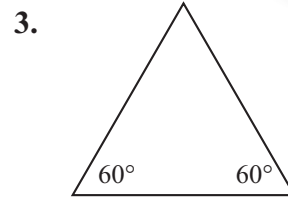
Classify each triangle by its sides and by its angles.



Right scalene



Isosceles obtuse



Equilateral acute

Use the diagram at right for questions 4 – 9.

4. Name the right triangles.
 $\triangle EBD$, $\triangle EFD$, $\triangle EGF$, $\triangle FGD$ and $\triangle CDB$

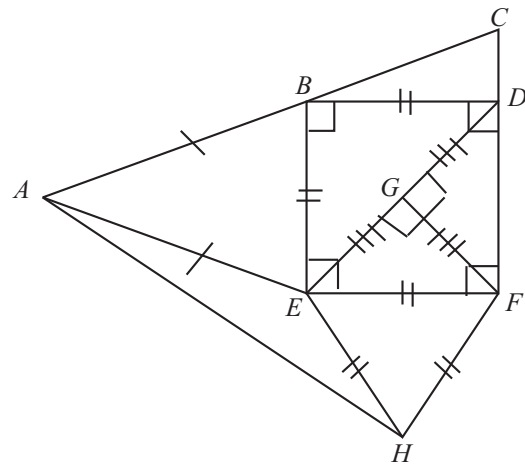
5. Name the isosceles triangles that are not right triangles.
 $\triangle ABE$ and $\triangle EFG$

6. Name the obtuse triangle.
 $\triangle AEH$

7. Name the scalene triangle that is not a right triangle.
 $\triangle AEH$

8. Name the scalene triangle that is a right triangle.
 $\triangle CDB$

9. Name the equilateral triangle.
 $\triangle EFH$



10. An equilateral triangle has a perimeter of 21 inches. What is the length of each side of the triangle?

7 inches

11. The acute angles of a right triangle are congruent. What are the three angle measures of the triangle?

$45^\circ, 45^\circ, 90^\circ$

12. Two angles of a triangle measure 110° and 24° . Find the measure of the third angle.

46°

Journal

1. Describe how to classify a triangle by its side lengths. Then, describe how to classify a triangle by its angle measures.
2. Why is an equilateral triangle also an isosceles triangle?
3. Explain why a right triangle can only have one right angle and why an obtuse triangle can have only one obtuse angle.

Cumulative Review

1. Draw three parallel line segments.



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2. Draw two lines perpendicular to a ray.



Estimate the angle measure and classify the angle.

3.



Acute: About 25°

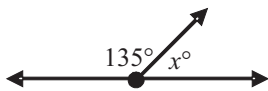
4.



Obtuse: About 155°

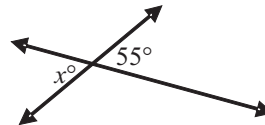
Find the value of x .

5.



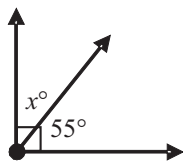
45°

6.



55°

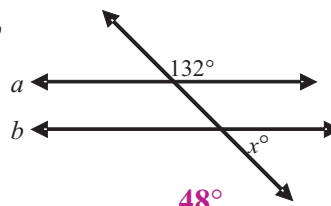
7.



35°

8.

$a \parallel b$



48°

Possible Journal Answers

1. If all the sides have the same length, the triangle is equilateral. If at least two of the sides have the same length, the triangle is isosceles. If all the sides have different lengths, the triangle is scalene.

If all the angles are acute, the triangle is an acute triangle. If one of the angles is a right angle, the triangle is a right triangle. If one the angles is an obtuse angle, the triangle is an obtuse triangle.

2. An equilateral triangle is also an isosceles triangle because an isosceles triangle has at least two congruent sides, which means two or more congruent sides. An equilateral triangle has three congruent sides.
3. A right triangle can have only one right or obtuse angle because of the Triangle Sum Property. The property states that the three angle measures of any triangle sum to 180° . If one of the angles is 90° or more, then there are at most 90° left over to share between the two remaining angles. Neither could be obtuse because an obtuse angle is greater than 90° . If one of the remaining angles was 90° , there would be no degrees left for the third angle.