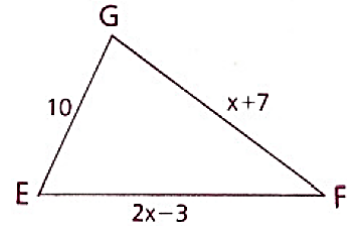


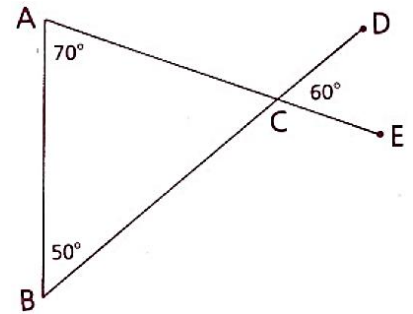
5.1 ~ Classifying Triangles

- The measures of the angles of a triangle are in the ratio 2:3:4. Find the measure of each angle and classify the triangle by its angles and its sides.

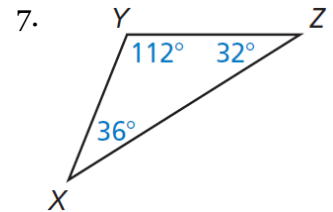
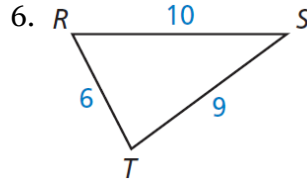
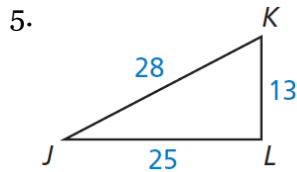
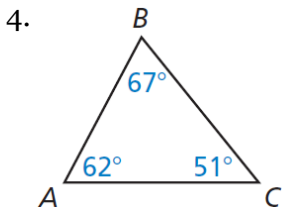
- Given: the perimeter of $\triangle EFG$ is 32
 - Is $\triangle EFG$ scalene, isosceles, or equilateral?
 - Write the angles in order from smallest to largest.



- Classify $\triangle ABC$ by its angles and its side. Explain your reasoning.



If you are given the angle measures, write the sides in order from shortest to longest. If you are given the side lengths, write the angles in order from smallest to largest.



Is the triangle with the three given side lengths acute, right, or obtuse? Show how you obtained your answer.

8. 3, 2, $\sqrt{12}$

9. 6, 13, $\sqrt{207}$

Tell whether a triangle can have sides with the given lengths and explain your reasoning.

10. 6, 10, 15

11. $n + 8$, $3n + 5$, $4n - 11$, when $n = 6$

The lengths of two sides of a triangle are given. Find the range of possible lengths for the third side.

12. 4 & 19

13. 28 & 23

Graph $\triangle ABC$ using each set of given points. Classify the triangle by its sides: scalene, isosceles, or equilateral; and by its angles: acute, right, or obtuse. Show all work. Your proof is in the mathematics.

14. $A(5, 8)$, $B(5, 2)$, $C(-3, 5)$

15. $A(-6, 4)$, $B(3, 8)$, $C(-2, -2)$

