Introduction to Triangles

Every triangle can be classified by both its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

|  |  |
| --- | --- |
| **Classification by Sides:** | **Classification by Angles:** |
| Scalene | Acute |
| Isosceles | Right |
| Equilateral | Obtuse |

\*If a triangle is equilateral, it is also \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and each angle measures \_\_\_\_\_\_\_\_.

\*Congruent sides are identified with a “tally mark”

\*Congruent angles are identified with what looks like a parenthesis

Classify each triangle by its sides and angles:

1.  2. 3.

Triangle Constructions

When given certain angle and side criteria, you may be able to form \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ triangles.

In the space below, construct a triangle with a 60° angle and one side that is 4 cm. Does your triangle look like your neighbors? Does it look like mine?

Use the space below to construct triangles with the given criteria – number the triangles 1, 2, 3 and 4 once you have met the criteria:

1. Side length of 4 cm and side length of 5 cm that meet at a 60° angle

2. Triangle with two 45° angles

3. A triangle with sides 3 cm, 5 cm, and 10 cm

4. A triangle with sides 5 cm, 7 cm, and 9 cm

One, None or Many – Rules

Given one side and one angle measurement, you can construct \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ triangles.

Given two sides and the angle in between, you can construct \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ triangle.

Given two angles and a side, you can construct \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ triangle.

Given three side lengths, you can construct \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_ triangle.\* (more tomorrow)

Given three angle measurements, you can construct \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ triangles.