Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Special Right Triangles Investigation**

**Focus Question 1:** What is the relationship between the sides of a 45°/45°/90 triangle?

1. Use the slider buttons in the Geogebra to construct a triangle with an angle of 45°.
2. What properties can you identify about the triangle you just constructed?
3. Complete the table below with the information from three (3) different triangles.

*Make sure all values are integers or in simplified radical form, NO DECIMALS.*

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Side a** | **Side b** | **Side c** |
| **Triangle #1** |  |  |  |
| **Triangle #2** |  |  |  |
| **Triangle #3** |  |  |  |

What conjecture can you make about the relationship between the values in the columns above?

**Focus Question 2:** What is the relationship between the sides of a 30°/60°/90 triangle?

1. Use the slider buttons in the Geogebra to construct a triangle with an angle of 60°.
2. What properties can you identify about the triangle you just constructed?
3. Complete the table below with the information from three (3) different triangles.

*Make sure all values are integers or in simplified radical form, NO DECIMALS.*

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Side a** | **Side b** | **Side c** |
| **Triangle #1** |  |  |  |
| **Triangle #2** |  |  |  |
| **Triangle #3** |  |  |  |

What conjecture can you make about the relationship between the values in the columns above?