IS IT A TRIANGLE?

With your partner, use the provided GeoGebra activity to complete the table below. If a set of sides does not make a triangle, write “not a triangle” in the third column.   
GeoGebra link: <https://www.geogebra.org/m/tgwg6tnj>.

| **Number Sets** | **Is It a Triangle?  (Yes/No)** | **What Type of Triangle? (Acute, Obtuse, Right)** | ***a+b*** | **>**  **<**  **=** | ***c*** |
| --- | --- | --- | --- | --- | --- |
| **3, 4, 5** |  |  |  |  |  |
| **1, 2, 3** |  |  |  |  |  |
| **6, 5, 10** |  |  |  |  |  |
| **12, 16, 18** |  |  |  |  |  |
| **7, 3, 12** |  |  |  |  |  |

How do we know if three line segments make a triangle?

What algebra can help us calculate this?

| **Notation** |  |
| --- | --- |

How do we know what type of triangle a set of segments creates?

What algebra can help us calculate this?

| **Type of Triangle** | **Notation** |
| --- | --- |
| **Right** |  |
| **Acute** |  |
| **Obtuse** |  |