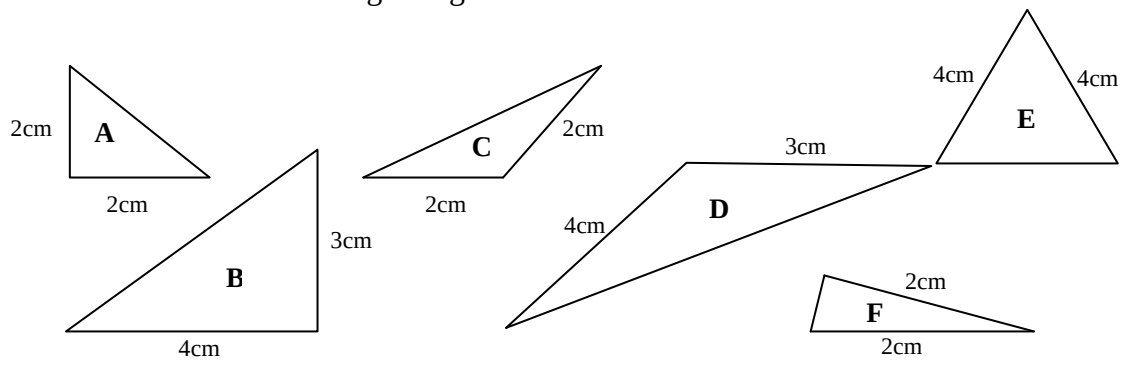
# COUNTDOWN Challenge

*To be a triangle or not to be a triangle?*

According to the **Triangle Inequality Theorem**, the sum of the lengths of any two sides of a triangle is greater than the length of the third side: side 1 + side 2 > side 3

Use the following triangles and the data table to test the theorem.

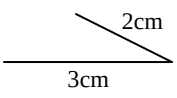



| ID | Length of side 1 | Length of side 2 | Side 1 + side 2 | Measure of side 3 | Type of triangle (side) | Type of triangle (angle) |
|---|---|---|---|---|---|---|
| **A** | | | | | | |
| **B** | | | | | | |
| **C** | | | | | | |
| **D** | | | | | | |
| **E** | | | | | | |
| **F** | | | | | | |

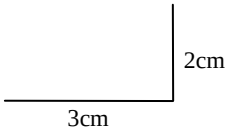
Use the **Triangle Inequality Theorem** to determine if shapes G through L can be triangles.

| Shape ID | Length of side 1 | Length of side 2 | Length of side 3 | Is it a Triangle? Yes or No |
|---|---|---|---|---|
| G | 1 | 1 | 1 | |
| H | 1 | 1 | 2 | |
| I | 1 | 3 | 1 | |
| J | 4 | 1 | 1 | |
| K | 4 | 5 | 1 | |
| L | 4 | 3 | 2 | |

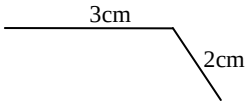
Make 3 different triangles. Complete the inequality expression for each to show the **Triangle Inequality Theorem**.




3cm + 2cm >




3cm + 2cm >




3cm + 2cm >