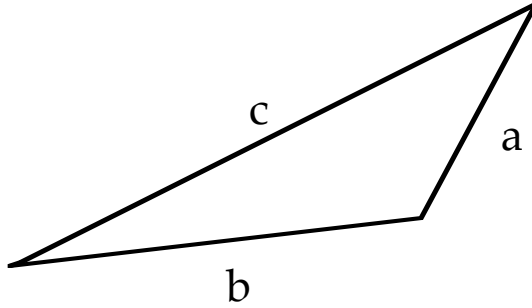

GEOMETRICAL FIGURES (TRIANGULAR FRAMEWORKS) PROJECT

Joe uses metal rods to make triangular frameworks in which each side has a different length.

He buys metal rods which have lengths 1 *meter*, 2 *meters*, 3 *meters* etc and he always keeps one rod of each length in stock.



This diagram shows one of Joe's triangular frameworks.

a, b, c are all integers and $c > b > a$.

That is, c is the longest side, a is the shortest side and a, b, c are whole numbers.

1. How many different triangular frameworks can Joe make which have a longest side 7 meters long, using the rods he has in stock? Show your work.

2. Investigate this situation for other values of c .

3. Write down any generalizations you can make.
