Explorations and Activities Exercise

►. Does there exist a Pythagorean triple $(m, m+11, m+12)$ where m is a natural number?

▷. First go into *thinking land* to mathematically figure out your answer (do not hand in your *thinking land*).

- If the answer is yes, first say what are all such triple(s). Then give a (math) justification of why your listed triple(s) are preciously all possible such triplet(s).
- If the answer is no, first state no such triple exist. Then give a mathematical justification of why no such triple exists.

Remarks/Hints.

- Your justification must use complete sentences and proper grammer. Follow the WG: **Use English and minimize the use of cumbersome and unnecessary notation** (e.g., use words such as if-then (or implies) rather than the math symbol $\Rightarrow$). However, your justification need not be in the form of a proof. In your justification, explain as if you are explaining to a confused fellow student.
- You justification might involve solving an equation. You may use a calculator to say something similar to: A calculator indicates that $1.2 < \frac{1+\sqrt{3}}{2} < 1.4$ and so $\frac{1+\sqrt{3}}{2} \notin \mathbb{N}$.

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