Explorations and Activities ER

►. 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 state there does exist such triple(s) and list <u>all</u> such triple(s). Then give a mathematical justification of how you can to your conclusion.
- 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 need not be in the form of a proof. In your justification, explain as if you are explaining to a confused fellow student (and use complete sentences).
- You justification might involve solving an equation. You may use a calculator to say something like: to 3 decimal places $\frac{1+\sqrt{3}}{2} \approx 1.366$. Thus $\frac{1+\sqrt{3}}{2} \notin \mathbb{N}$.

. . . . . .

DELETE this whole sentence and THEN put your answer to ALL parts down here.