## The "Inner Triangle" Pattern

1. Record all 4 solutions to the puzzle (sums of $9,10,11,12$ )
2. Find the "inner triangle" sums for each of the solutions (see the figure below).
3. What is the relationship between the outer triangle sums and the inner triangle sums? (The relationships become clear when the sums are arranged in a chart.)

| Outer triangle sum | 9 | 10 | 11 | 12 |
| :--- | ---: | ---: | ---: | ---: |
| Inner triangle sum | 15 | 12 | 9 | 6 |

How else can you represent this relationship? (e.g., plot on a graph)

Try substituting different numbers for 1-6. What do you find now?


