

Note that Pythagorean triplets can be generated through the below equations:

$$a = p^2 - q^2, b = 2pq, c = p^2 + q^2$$

Simplify $a + b + c = 1000$ to get $p(p + q) = 500$.

Since $a + b > c$, Try possible (p, q) pairs to get $(p, q) = (20, 5)$.