



Statue of Pythagoras in Greece

Pythagoras realized there were some special numbers for which the following relationship was true:

$a^2 + b^2 = c^2$ where a, b, c are whole numbers.

For example

$$3^2 + 4^2 = 5^2$$

and

$$5^2 + 12^2 = 13^2$$

Less well known are pairs of numbers for which

$$a^2 + b^2 = c^3 \quad \text{for example } 47^2 + 52^2 = 173^3$$

There are 8 such triples where $a, b,$ and c are all less than 50.

Can you find them?

Can you see any relationship enabling you to generate more such triples?