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Pythagorean Quadruplets

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It is given that a , b , c and d are natural numbers.

Given that $\{a, b, c\}$ is a Pythagorean triplet, prove whether or not $\{a, b, c, d\}$ is a Pythagorean quadruplet.

The answer follows on the next page ...

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Answer

{a, b, c, d} cannot be a Pythagorean quadruplet since $d = (\sqrt{2}) c$ when {a, b, c} is a Pythagorean triplet.