

Data Mining: Illustration of the Pythagorean Theorem

Bruce Ratner, Ph.D.

Notwithstanding the implied cautionary details to be considered when evaluating, interpreting, and implementing, I put forth my favorite pithy definition of data mining: *Any process that yields unexpected relationships among variables within a dataset.* [1] The purpose of this article is to give spirit and support to the concept of data mining. I display my data mining efforts via the GenIQ Model [2] to illustrate the Pythagorean Theorem in Figure 1, using the first ten Pythagorean triplets in Table 1, below. In other words, GenIQ uncovers once-a-truly unexpected relationship among the three sides of a right triangle in Figure 2, below.

If you are interested in the GenIQ data mining process, please email me. However, I would like you to email me your data mining illustration the Pythagorean Theorem. Sharing our approaches will “guaranty a splendid time for all.”

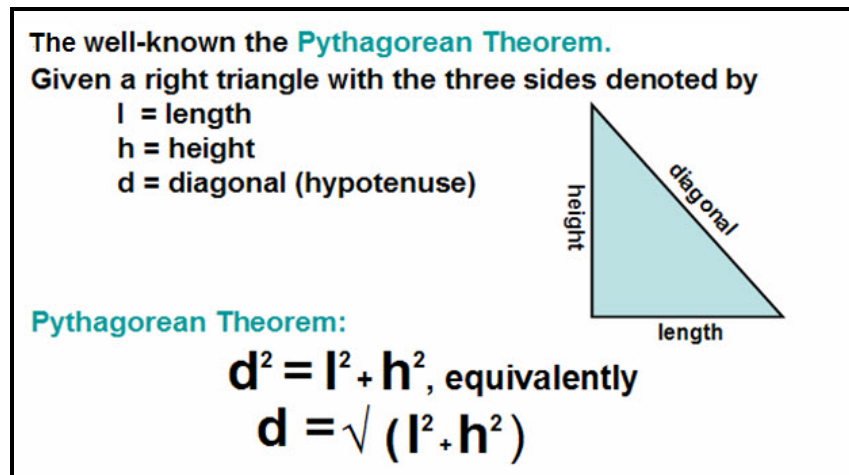


Figure 1. Pythagorean Theorem

(l,h,d)	length	height	diagonal
1	3	4	5
2	5	12	13
3	7	24	25
4	8	15	17
5	9	40	41
6	11	60	61
7	12	35	37
8	13	84	85
9	16	63	65
10	20	21	29

RESULTS:
 GenIQ finds the **relationship** among the pythagorean triplets.
 GenIQs tree display and **model equation/code** – the **Pythagorean Theorem** – are below.

```

x1 = height;
x2 = x1*x1;
x3 = length;
x4 = x3*x3;
x5 = x2 + x4;
x6 = SQRT(x5);
diagonal = x6;

```

← The model code as displayed is standard. But, assuredly, it is the **Pythagorean Theorem** defining the diagonal.

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Figure 2. GenIQ Uncovers the Pythagorean Theorem

Reference:

1. <http://www.geniq.net/res/data-mining-is-an-ill-defined-concept.html>
2. [What is the GenIQ Model?](#)