**The Great Computer Challenge, 2018**

***Object-Oriented Programming, Level VI***

# **Background: Pythagorean Triangles Challenge 3**

A right triangle is one that has a right angle for one of its corners. The side opposite the right angle is referred to as the hypotenuse. A very special right triangle is one which has sides that can be represented by integers that meet the following requirement. The sum of the squares of two of the sides is equal to the square of the hypotenuse.

# **Guidelines & Requirements**

For example, consider the following triangle:



A 2 + B 2 = C 2

(4) 2 + (3) 2 = (5) 2

16 + 9 = 25

# **Judging Criteria**

A series of integers that meets these requirements is referred to as a Pythagorean triple. Create a program that will display all Pythagorean triples where the longest dimension is between 1 and 500.

# **SOL Correlation**

C/T K-2.4

Plan and apply strategies for gathering information, using a variety of tools and

sources, and reflect on alternate strategies that might lead to greater successes in

future projects.

A. Identify information in various formats.

•Recognize that information may be presented as printed text, electronic

text, audio, video, or images.

B. Identify available sources of information.

•Be able to name and use sources of information available at school and

outside the school.

Thinking Skills, Problem Solving, and Decision Making

C/T K-2.5

Practice reasoning skills when gathering and evaluating data.

A. Recognize that technology can be used to solve problems and make informed

decisions.

•Communicate how a decision was made based on assistance from a

technology tool.

B. Use technology tools to assist with problem solving.

•Demonstrate how technology can be used to investigate and solve

problems in various content areas.

Technology Communication Tools

C/T K-2.6

Communicate effectively with others (e.g., peers, teachers, experts) in

collaborative learning situations.

A. Use technology tools for individual and collaborative writing,

communication, and presentation activities.

•Use word processing to practice writing skills.

•Use common graphic and presentation tools when preparing and providing

presentations.

B. Recognize tools useful for communication.

•Identify how different technologies appeal to different senses.

Have fun and thanks for participating in the Great Computer Challenge, 2018!