Pythagorean Theorem Assignment

Alpine Academy Geometry

Due January 20, 2017

1. There are many justifications and proofs of the Pythagorean Theorem. Four such proofs can be found on the Khan Academy website. The easiest way to find these proofs is to Google, “Khan Academy Pythagorean Proof.” If that does not work, you can enter the website below:

<https://www.khanacademy.org/math/geometry-home/geometry-pythagorean-theorem/pythagorean-proofs/v/another-pythagorean-theorem-proof>

In class, we started by watching Bhaskara’s proof. For this assignment, please choose one of the other 3 proofs available and watch the video explanation. Your goal is to become an expert on one of these proof as if you were going to teach it to the class.

**What you hand in:** A sheet of paper where you recreate the steps of the proof after watching the video, as well as a few sentences about anything that surprised or confused you about this proof and how it compared to the one we watched in class.

2. What is the converse of the Pythagorean Theorem? How does the converse of the Pythagorean Theorem differ from the theorem itself? Is the converse of the Pythagorean Theorem always true? Create a problem whose solution requires the application of the converse of the Pythagorean Theorem.

3. Using a piece of graph paper explore the relationship between the formula for the distance between two points in the Cartesian coordinate plane and the Pythagorean Theorem. Write a brief explanation about how they are related.

4. Search the Internet for information about the life of Pythagoras. Possible areas of interest might include heliocentrism or bilocation. Write down one interesting fact you learned about him.