



TEACHER PAGE

Lesson: Pyramids – Slant Height and Altitude

Teacher-Author: Judy Reihard
ASSET Animator: Alex Lanza

New Arizona Math Strand 4 Geometry and Measurement Grades 9-12
Articulated 4MH4-07 Solve for missing measures in a pyramid i.e., slant height and altitude.

Learning objectives: the student will be able to:

- demonstrate understanding of the vocabulary: base edge, lateral edge, slant height and altitude of pyramid, square of a number, isosceles triangle, perimeter.
- demonstrate and explain understanding of the Pythagorean Theorem.

Overview:

This is a step-by-step process lesson focusing on working with the Pythagorean Theorem to determine the length of the slant height and altitude of a pyramid.

Classroom Management:

This can be used in large group lessons, small group, or individual assignments. Each student will move through the lesson at differing speeds.

Engaging Students:

Show real-life pictures of pyramids with which the students might be familiar. (e.g., Luxor Casino in Las Vegas, City Hall in Tempe, AZ, Egyptian pyramids, etc.) Briefly introduce surface area and volume to give meaning to slant height and altitude, and to emphasize the importance of slant height and altitude.

Follow-up:

Each of So What, Dig Deeper, and Talk About afford opportunities for follow-up and extensions. Take advantage of these opportunities. In So What! students will approximate the amount of glass needed to cover the surface area of the Luxor Hotel in Las Vegas. Dig Deeper takes a jog in a different direction to the calculations for the slant height of triangular pyramids. Talk About It! is a hands-on activity: building a triangular pyramid from a small envelope. Find more mathematics teaching resources at: <http://www.evtpc.org/tutor>

Assessment:

Multiple-choice questions must be correctly responded to in order to finish the lesson.

Teacher Note: Students will be working with and using the symbol for square root as they do the lesson. They may or may not need review of this.

