Name _____ **Date** _____

Fighting Obstacles Activity Sheet

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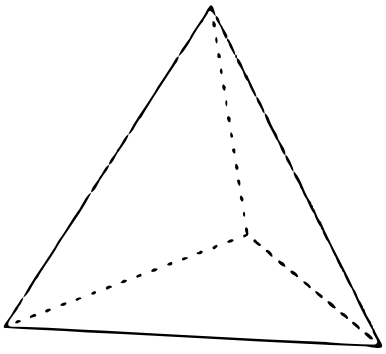

The Role of German Tetrahedra

The Axis powers had a strategic system of obstacles both under the water and on the beaches of Normandy. Some could be transported from battle to battle. As the Higgins boats approached the beaches, it would be easy to see the large tetrahedrons forming a fence line and stopping tanks or other vehicles. Made of iron and wrapped in concrete, they were unaffected by tides or gunfire.

For the Allies on the beach, the size gave infantry a little protection. The sides of each tetrahedron were between two feet and six feet long. Mines could be attached to them. At Utah Beach, the Germans had 150 tetrahedra as a line of defense. Men and landing craft could be destroyed before infiltration beyond the beach.

Use the properties/formulas for triangular pyramids to answer the following questions.

1. How many side pieces would have been needed to construct 150 tetrahedra?

2. What would be the slant height of a regular tetrahedron with sides 5 feet long?

3. If a tank was approaching a row of dragon's teeth that were each 4 feet tall, what would have been the total surface area confronting the tank?
(Hint: find the length of the sides using 4 feet as the altitude. Then determine the surface area of a face.)

4. If an Allied member of the Naval Combat Demolition Unit was able to get underneath the topmost vertex of a tetrahedron with sides 4.5 feet long to attach an explosive, what would the altitude be?

5. If a 5 foot 7-inch tall Allied soldier planted explosives just under the top of a tetrahedron, would a tetrahedron with sides five feet in length be taller or shorter than the soldier?

More Information at: http://www.ibiblio.org/hyperwar/Germany/HB/HB-5.html