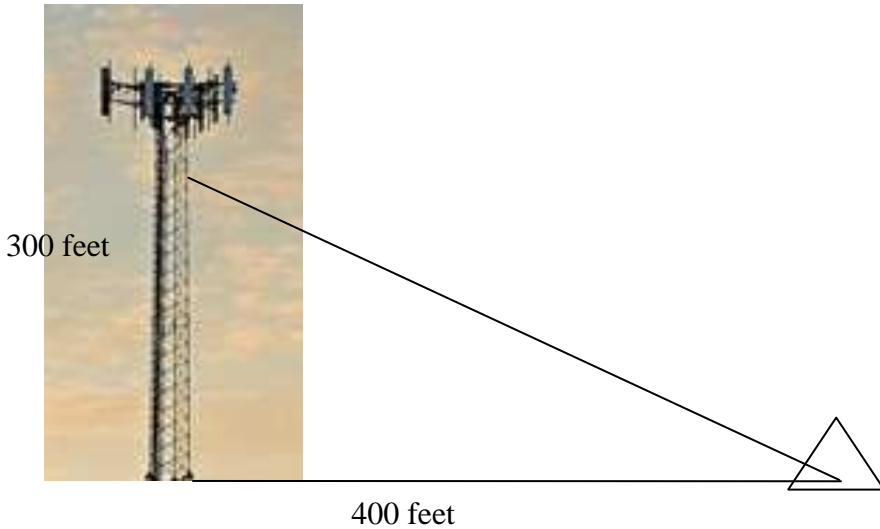


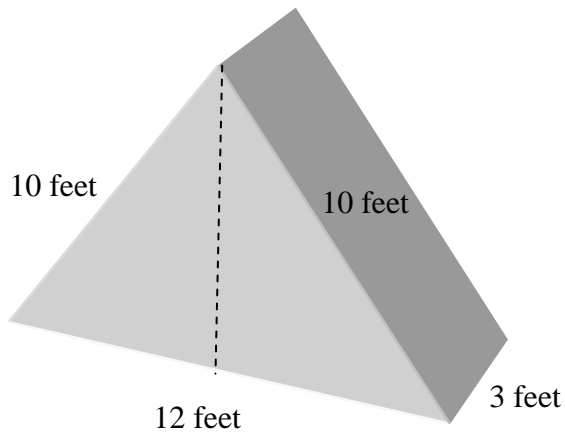
SHOW ALL YOUR WORK

1) A cell tower construction company is going to put up a tower in Mustang. The tower will be 450 feet high. Support cables will be attached 300 feet up from the base of the tower and anchored in a concrete block in the ground 400 feet away from the base of the tower. How long must the support cable be?

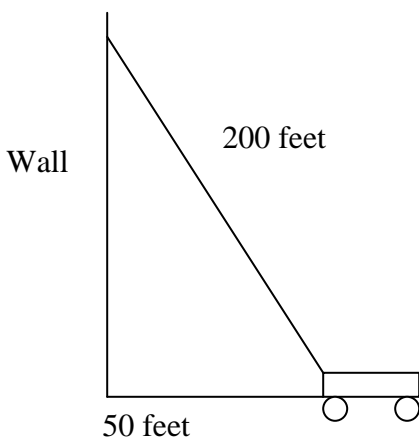


2) The concrete block that will anchor the cable is triangular prism shaped as shown below. The base is an isosceles triangle. How much concrete, (i.e. what is the volume) will be needed to build the anchor?

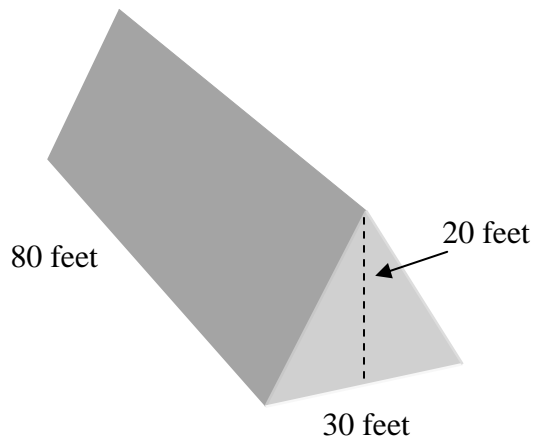
$V = (\text{Base Area})(\text{Height})$



3) A fire department needs to know how high up a building their ladder will reach when fully extended. If the truck is set 50 feet away from the wall and the ladder can be extended a maximum of 200 feet. How high can the ladder reach?



4) The roof of a house is shown below. In order to redo the shingles on the roof we need to know the area of the roof. Remember that there are 2 sides to a roof.



5) If a cable that is 150 feet long is set in the ground 30 feet from the base of the tower. How high above the ground would the cable attach to the tower. Draw a picture and show your calculations.