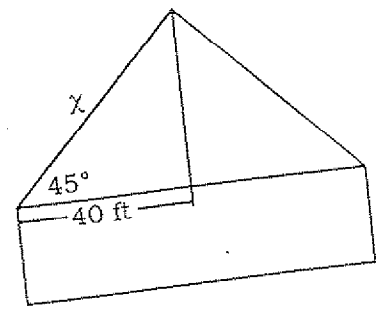
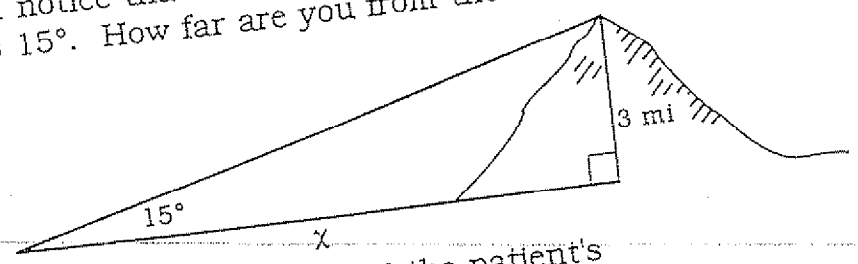


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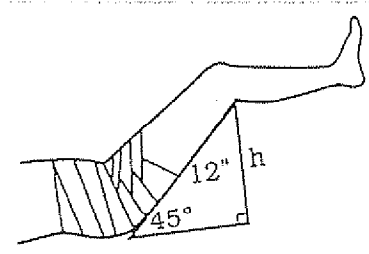
3. You are designing a house in a town that gets a lot of snow. You need the roof to have at least a 45° slope. How long must the roof be if it is 40 feet from the center of the house to the outside wall?



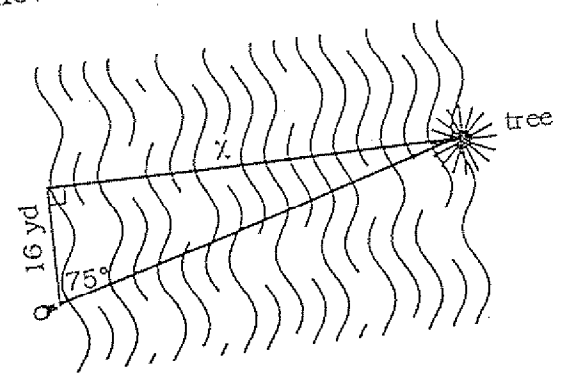
4. A certain mountain is known to be about 3 miles high. From your location, you notice that the angle of elevation to the top of the mountain is 15° . How far are you from the bottom of the mountain?



5. After hip surgery, a nurse elevated the patient's leg using a device that measures the degrees between the leg and the horizontal. If this device is set at 45° and if it is 12 inches from the patient's hip to knee, how high is the leg elevated?



6. To find the width of a river, a surveyor has measured the angle between the bank that he is on and a tree on the other side. The angle is 75° . The surveyor also knows a 16 yard measure as shown below. Find the width of the river.



7. While riding in an airplane, you notice a city at an angle of depression of about 30° . If the airplane is 10,000 feet high, how far are you from the city?

