

Glass Wrap



The thirty-story Luxor Hotel, located in Las Vegas, Nevada, contains the world's largest atrium with a volume of 29 million cubic feet. It is also considered a phenomenon among structures built in the world. Its shape mirrors that of the great pyramids of Egypt with magnificence and grandeur. Unlike the pyramids of Egypt, the Luxor's exterior is covered in glass. It is said to be covered by 13 acres of glass! Its dimensions include a square base 646 feet on each side and a height or altitude of 350 feet.

1. Design a net for a pyramid drawn to scale that is a replica of the Luxor Hotel in Las Vegas. Explain the procedure you used to design this net. Then use the net design to build the replica using black poster board.
2. Determine the number of acres of glass needed to "wrap" the Luxor Hotel in glass (exclude the base). Compare this lateral surface area with the actual lateral surface area given and explain your findings.