Hexagon Housing: A More Realistic Solution to Refugee Housing Using the Isoperimetric Honeycomb Conjecture

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There are over 1.5 million people living in refugee camps across the world. Wind storms with speeds over 80 mph rip current refugee tents apart, destroying what little they have left. We created a new hexadome tent that can withstand wind speeds over 100 mph and weighs less than 100lbs. Our design is also cheaper than any portable housing design currently available. Our design can be conveniently folded down into one hexagon for easy transport. We reduced the amount of pentagons used in a hexadome from twenty to four. The minimization of pentagons allows us to utilize the principles proved in the honeycomb conjecture. These principles state that hexagons maximize volume while minimizing surface area, which lowers the price of the structure because less material is utilized. The efficient design, combined with the stability of the structure, creates the perfect home, not just for refugees, but for soldiers, victims of natural disasters, and anyone else who needs a home away from home.

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