



Al wants to give his dog, Stella, plenty of room to run but still keep her within his yard. In order to do this, he purchased an underground dog fence that includes 500 feet of wire. Al wants to fence in a rectangular region with the maximum area possible using 500 feet of wire. What dimensions should Al use to construct his fence? What will be the area of the enclosed region? How do you know that you have determined the largest possible area?