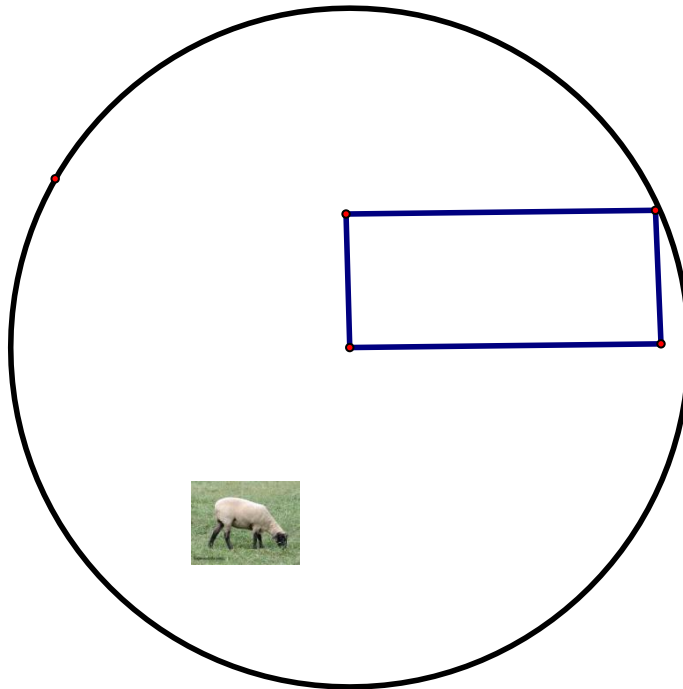Mowing the Lawn

I am tired of mowing the outside my house, so I bought a sheep to eat the grass. The sheep is tied to one corner of the house. If it takes about 4000 square feet of grass to feed an adult sheep, will my sheep get enough to eat where she is? Explain your answer.

The length of the house is 30 ft and the width is 20 ft. The left bottom corner of my house happens to be the center of my yard.

Solution: The eatable area is calculated as

Circle area – house or ≈4084 sq ft – 600 sq ft = 3484 sq ft which means the sheep will not get the 4000 sq ft it needs.