

EXAMPLE 5 □ Find the area of the largest rectangle that can be inscribed in a semicircle of radius r .

SOLUTION 1 Let's take the semicircle to be the upper half of the circle $x^2 + y^2 = r^2$ with



32. Answer Exercise 31 if one piece is bent into a square and the

(c) Determine the minimum surface area of the cell (in terms

other into a circle.

of s and h).

33. A cylindrical can without a top is made to contain V cm³ of

Note: Actual measurements of the angle θ in beehives have