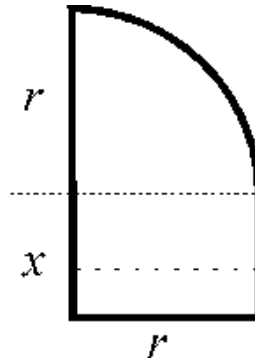


Calculus Quiz

Your Name:

1. The shape below is created by placing a quarter circle atop a rectangle. It has an outer perimeter of 40 cm (bold line). Find the dimensions r and x that maximize the area of the shape.



$r =$

$x =$

2. Find all concave up intervals, concave down intervals, and inflection points for this function:

$$f(x) = x^5 - 100x^3 + 10x$$

concave up

concave down

inflection points