Provide a clear and organized presentation. Completely simplify your answer and give exact values only. A window is in the shape of a rectangle surmounted by a right isosceles triangle as depicted below. Determine a function in x that gives the area of this shape (yes, that's the whole shape, not just the triangular portion) if the perimeter is fixed at 10 ft and determine the value of x that maximizes this area.

y

x