

3. [9 points] A factory makes cylindrical cans of volume 400 cubic centimeters. Suppose the metal for the side of the can costs 1 cent per cm^2 , and the metal for the top and the bottom costs 2 cents per cm^2 . Find the **radius** of the can shape that minimizes the cost of producing such a can.

Show all your work, include units, and fully justify using calculus that you have in fact found the radius that minimizes cost.

Answer: radius = _____