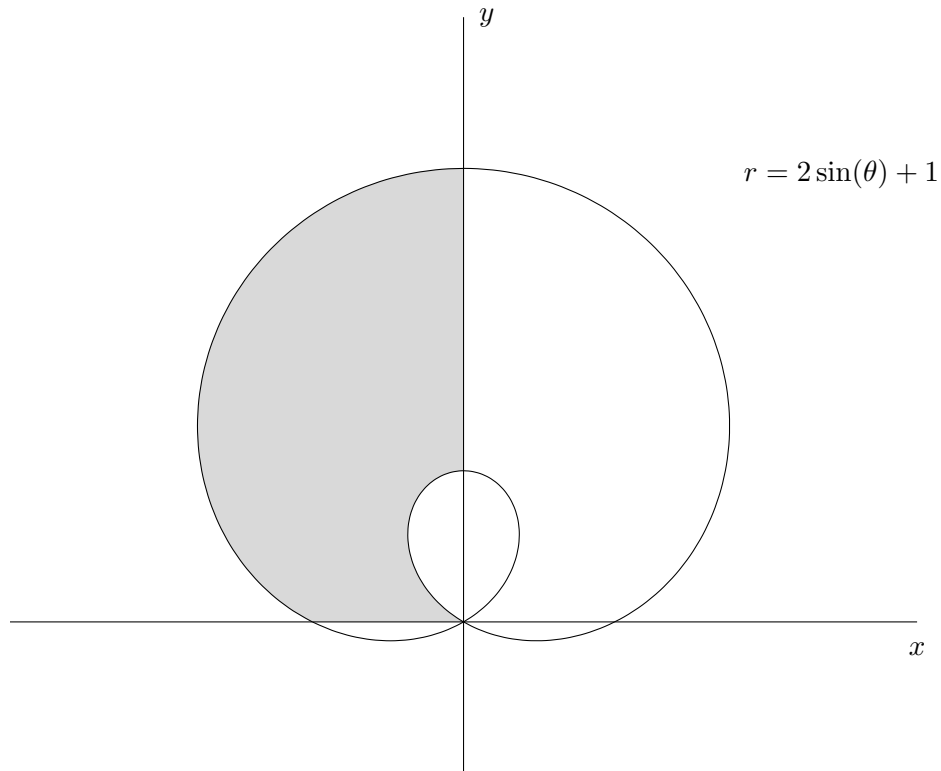


9. [6 points] O-guk is creating a can opener to open his many cans of juice. The opener is in the shape of the shaded region enclosed by the two loops of the polar curve $r = 2 \sin(\theta) + 1$ and the x - and y -axes.



Write an expression involving integrals that gives the total area of the shaded region.