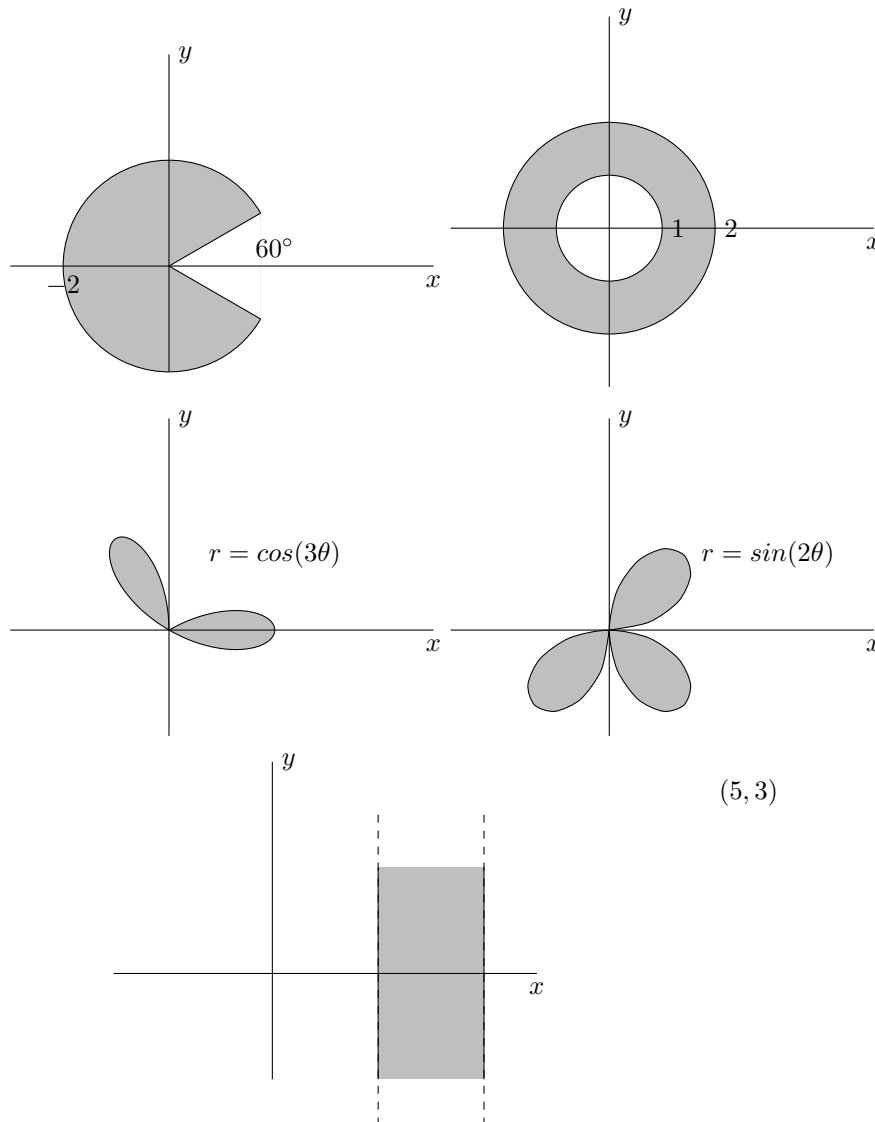


POLAR INTEGRALS

0.1. Setting up Polar Integrals.



0.2. Prove that the volume of a cone is $\pi/3r^2h$.

0.3. I am throwing darts at a dartboard of radius 1. The amount of points that I get from a dart that lands at (r, θ) is $1-r$. This means I get 1 point if the dart lands in the center, and 0 points if the dart lands at the boundary.

- Assuming that I am equally likely to throw at any angle, or any radius, What is the predicted score of throwing 100 darts?
- Assuming that I am equally likely to hit any point on the dart board, what is my predicted score from throwing 100 darts?
- What is the difference between the 2 above statements, and how do they relate to polar integration?