1. [6 pts] Consider the double integral

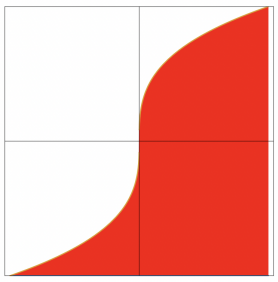
$$\mathbf{I} = \int_{-1}^{1} \int_{0}^{1-x^2} \sqrt{1-y}\, dy\, dx$$

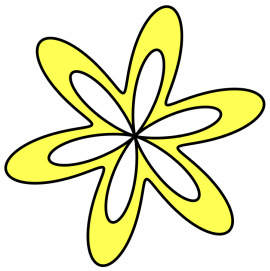
(a) [3 pts] Sketch the region R of integration.

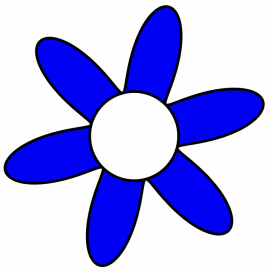
(b) [3 pts] Switch the order of integration and rewrite the integral $\mathbf{I}$ with the y-variable being outermost and x-variable being innermost.

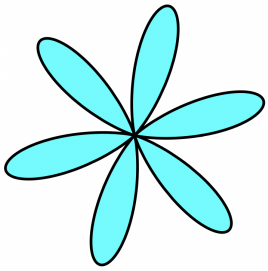
(c) [3 pts] Evaluate the integral $\mathbf{I}$.

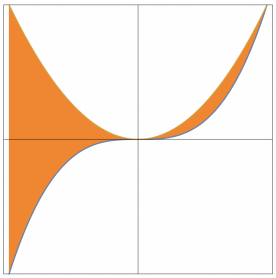
2. [12 pts] Match each picture below with the double integral that computes the area of the region.

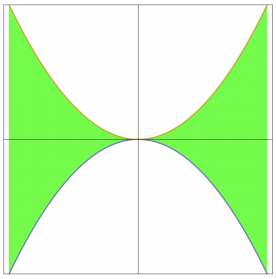
A 

B 

C 

D 

E 

F 

Enter A – F	Integral
	$\int_0^{2\pi} \int_0^{1+\sin(6\theta)} r dr d\theta$
	$\int_{-1}^{1} \int_{y^3}^{1} dx dy$
	$\int_{-1}^{1} \int_{x^3}^{x^2} dy dx$
	$\int_{-1}^{1} \int_{-x^2}^{x^2} dy dx$
	$\int_0^{2\pi} \int_{1+\sin(6\theta)}^{2+\sin(6\theta)} r dr d\theta$
	$\int_0^{2\pi} \int_1^{2+\sin(6\theta)} r dr d\theta$