Math 2E – Suggested Homework 6

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**Reading:** Section 16.4: Don’t worry about the proof of Green’s theorem or the orientation-business.

- **Section 16.4:** 2, 6, 7, 10, 11, 12, 18, 21\(^1\), 27\(^2\), AP

**Additional Problem:** Find the area of inside the asteroid with parametric equations \( x(t) = \cos^3(t), y(t) = \sin^3(t), \) \( 0 \leq t \leq 2\pi \) (for a picture, see problem 34 in section 10.2 on page 655).

**Hint:** To calculate the integral, you need \( \cos(t) \sin(t) = \frac{1}{2} \sin(2t) \), as well as a \( u \)–substitution \( u = 2t \).

\(^1\)This problem is SO cool!!!
\(^2\)No need to show that it’s independent of the curve, just calculate the value