1. (6.2.12 in *Colley*) Use Green's theorem to find the area enclosed by the hypocycloid $\mathbf{x}(t) = (a\cos^3 t, a\sin^3 t)$, $0 \le t \le 2\pi$. (We found the length of the hypocycloid on 15 October). Feel free to leave an unevaluated definite integral in your answer.