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Department of Mathematics, 5500 Wabash Ave, Terre Haute, IN 47803. *Convexity of Level Curves  
for solutions to  $\Delta u = f(u)$* . Preliminary report.

Let  $\Omega$  be a strictly convex smooth planar domain. We present an elementary proof, relying only on the maximum principle, of the convexity of the level curves for solutions to  $\Delta u = f(u)$  in  $\Omega$  and  $u = 0$  on  $\partial\Omega$  where  $f$  is a smooth function satisfying  $f'(t) \geq 0$  and  $f(0) < 0$ . The conditions on  $f$  can be weakened slightly with some modification to the proof. (Received September 26, 2006)