

# Math 124 Quiz 7 Winter 2002

Name:

**Problem 1.** (10 points)

(Problem 5, Section 4.5) Sketch the graph of the function  $y = \ln(4 - x^2)$ . Show all your steps. **In particular, you need to show the following calculations separately and clearly:** (a) domain (b) intercepts (c) symmetry (d) asymptotes (e) tests involving  $f'(x)$  and (f) tests involving  $f''(x)$ . **(You can use the next page too if you need more space.)**

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Problem 1. continued (if you need more space)

**Problem 2.** (5 points)

(Problem 5, Section 4.7) Find the area of the largest rectangle that can be inscribed in a semicircle of radius  $r$ .