QUIZ 2 - MATH 112 YOUR NAME:

Friday, September 9 George Voutsadakis

Read each problem **very carefully** before starting to solve it. Each problem is worth 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

- 1. Consider the function $f(x) = -x^2 + 6x + 7$.
 - (a) Find the vertex.
 - (b) What is the opening direction?
 - (c) Find the *y*-intercept.
 - (d) Find the *x*-intercepts.
 - (e) Sketch the graph.

2. Find the domain of the rational function

$$f(x) = \frac{x^2 + 7}{x^5 - x^4 - 6x^3}$$