Final Exam Practice

Math 135: Intermediate Algebra January 8 2008

Useful Formulas

Problems

- 1. A goldsmith is making a 16 gram ring from a combination of gold and silver. Gold costs \$50 per gram, and silver is \$10 per gram. The goldsmith wants the cost of materials for the ring to be between \$400 and \$510. What amount of gold and silver can he use in the ring?
- 2. Graph the line x + 2y = 4, and find its slope and intercepts.
- 3. Factor: $3x^2 13x 10$
- 4. Two data entry clerks working together take 4 hours to type a database into a computer system. Working alone, it would take the faster clerk 6 hours less than the slower one. How long would it take each clerk to enter the database by himself?
- 5. Divide: $(5-3i) \div (2+4i)$
- 6. Solve: $x^2 4x + 13 = 0$
- 7. Graph $y = \frac{1}{2}x^2 2x 6$, and find its vertex and its zeros.
- 8. A plane flies from New York to Paris and back. The trip east, with the wind, takes 7 hours, and the trip back, against the wind, takes 8 hours. If the two cities are 4,480 miles apart, find the speed of the plane in still air and the speed of the wind.