## Exam 3 Practice Math 135: Intermediate Algebra December 27, 2007

## **Useful Formulas**

## Problems

- 1. Multiply: (2+3i)(1+i)(3-i)
- 2. Solve:  $\frac{2}{x-1} + \frac{6}{x+1} = 4$ .
- 3. Solve:  $x^2 + 2x + 4 = 0$ .
- 4. Evaluate:  $\frac{1}{8^{-2/3}}$ .
- 5. Graph  $y = x^2 3x + 2$ , find the x intercepts, and mark them on your graph.
- 6. Simplify:  $\left(\frac{a^2b^{1/3}c}{a^{-1/2}c^{2/3}}\right)^2$ .
- 7. Solve: 2x y = -5 and -3x + 2y = 9.

- 8. A ball is thrown straight upward at 8 meters per second from the top of a 20 meter cliff. Its height after t seconds is  $h = -5t^2 + 8t + 20$  meters off the ground. Find (a) the maximum height of the ball and (b) how long after it is thrown the ball hits the ground.
- 9. Constructing a grain silo with a circular floor costs \$10 per square meter of floor space, and \$5 per meter of the outer wall. If a farmer has \$30,000 to spend on a silo, what is the largest radius silo he can afford?
- 10. A piggy bank contains quarters and dimes. If the number of dimes is 2 more than twice the number of quarters, and the total value of the coins is \$2.90, how many of each type of coin are in the piggy bank?