MATH 3851 Homework Assignment 5 (due Tuesday, February 20th)

Textbook problems:

Section 30: (p. 89-90) 12
Section 33: (p. 95-97) 2(c), 3
Section 34: (p. 99-100) 1
Section 36: (p. 103) 2(c), 7
Section 38: (p. 107-109) 11, 14(b)
Section 42: (p. 119-120) 2(a)

Extra problems:

• Find all values of z which satisfy $\sin z = i$. (Hint: make this a quadratic by substituting a variable $w = e^{iz}$!)

• Can you find a branch of the multiple-valued expression $\log(iz^2)$ which is analytic in the domain $D = \{z \ : \ y > 0\}$? Be specific about which branch you are using, and explain why it is analytic in D!