MATH1061/7861: Chapter 3 and 4 Practice Questions and Assignment 4

Chapter 3 (Sections 3.5–3.9, 4.1) Practice Questions

The solutions to the Practice Questions are in the back of the textbook, so remember to check your solutions.

Section 3.5

Complete the following questions from page 170–171 of the textbook. 1, 3, 18, 19.

Section 3.6

Complete the following questions from page 178–179 of the textbook. 5, 8b, 17, 21, 24.

Section 3.7

Complete the following questions from page 184–185 of the textbook. 3, 19, 31a.

Section 3.8 (alternate)

Complete the following questions from pages 196–198 of the textbook. 9, 10, 13, 25a.

Section 3.9

Complete the following questions. Answers are provided in brackets.

For each of the following Linear Diophantine equations, determine whether or not a solution exists. If a solution does exist, find one such solution.

1. $91x + 221y = 1053$ ($\gcd(91, 221) = 13$, so $x = 405$, $y = -162$ is one solution)
2. $158m + 57n = 20000$ ($\gcd(158, 57) = 1$, so $m = -440000$, $n = 1220000$ is one solution)
3. $354a + 258b = 45$ ($\gcd(354, 258) = 6$, and 6 does not divide 45, so there is no solution)

Section 4.1

Complete the following questions from page 213–215 of the textbook.
19, 20, 24, 35, 48, 54, 55, 57.

Assignment 4

Due by 5 pm Thursday 1st September, 2005. Please place your assigment in the box marked MATH1061/7861 on level four of Building 67 (Maths Building). Please ensure that you attach a cover sheet to your assignment. You will find copies of the cover sheet at the back of this booklet.

Section 3.5, pages 170–171: Questions 28
Section 3.6, For all intergers a, b, and c if $a \mid b$ and $a \nmid c$, then $a \nmid (b + c)$.(Hint: represent the question in the form $(p \wedge q) \rightarrow r$ and prove by contradiction.)
Section 3.8, Find integers m and n such that $m \cdot 3510 + n672 = 6$.
Section 4.1, Page 213–215; Questions 7, 39, 43, 44, 50.