Math 353 **Homework 1** **Due Wed., Feb. 4, 2004**

Please staple or paper-clip your homework sheets (no folding over corners), and consider writing more than one draft. You are expected to spell correctly and write complete, grammatical sentences when possible in this and all your university assignments. Homework solutions will be distributed when the assignment is due. No late homework is accepted, but the lowest two homework scores (possibly zero) will be omitted in computing your homework average. In rare instances, you may be excused from an assignment, but the dropped scores are intended to cover ordinary illnesses, etc.

There are two kinds of homework problems: ungraded and graded. Ungraded problems have answers in the back of the book. Subject to unimportant numerical changes, one or two of them will show up on each test. Graded problems don't have answers in the back of the book. Some of them will come with a symbol such as ($\mathcal{E}$), meaning that it is an old exam question.

My apologies that this is not a very interesting assignment.

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1. – §1.4, 5ab (ungraded).

2. – §1.4, 19 (ungraded).

3. – §3.3, 1ad (ungraded).

4. – §1.2, 10.

5. – §3.1, 14ac (answers are not unique).

6. – §3.1, 16.

7. – §3.2, 22 (look for convenient linear combinations of the two integers).

8. – §3.3 – 2c and 4c.

9. – §3.4 – 8.

10. – ($\mathcal{E}$) Suppose a, b and c are positive integers and $gcd(a, b) = 2$ and $gcd(a, c) = 3$. What are the possible values for $gcd(b, c)$? If it is possible that $gcd(b, c) = n$, find positive integers (a_n, b_n, c_n) so that

$$gcd(a_n, b_n) = 2, \qquad gcd(a_n, c_n) = 3, \qquad gcd(b_n, c_n) = n.$$