Homework 1

Due: 23 January 2024

For both problems, give the proof both in a two-column form (one for the statements, one for the justifications) and in a prose form (i.e. written out in a paragraph). The handin should be as a LaTeX file with both problems in it.

For the two-column versions of each proof, the following bit of formatting makes nice tables:

```
\begin{tabular}{ll}   % those are lowercase L, as in "left-justified"
first part    &   second part   \\
another line, left side  &   right side   \\
\end{tabular}
```

Problem 1.1 — theoretical

Prove that if a divides b and b divides c, then a divides c.

Problem 1.2 — theoretical

Prove that a right triangle (with hypotenuse c and legs a and b) is isosceles if and only if its area is $\frac{1}{4}c^2$.

Hand in the LaTeX source file using the handin script:

```
handin cmsc208 hwk1 myfile.tex
```

It's due at the start of class on the duedate.

Collaboration policy: group work! If you work with other people on this homework, you can just hand in one copy and put all your names on top. There will be a revision cycle for this.