Homework 8

For practice: 7.42,

...and one more: For each of the following pairs (a, n) find the multiplicative inverse of $\bar{a} \in \mathbf{Z}_n$ or explain why no such inverse exists.

- $a = 51$, $n = 38$;
- $a = 17$, $n = 1029$;
- $a = 169$, $n = 4641$.

To turn in: 7.9, 7.24, 7.32 (don't worry about showing there are exactly d solutions), 7.33, 7.35,

...and one more: Recall that in class, we discussed a nice trick for checking whether a number is divisible by 3. Find a similar trick for checking whether a number is divisible by 11. Describe this test and justify it. Finally, illustrate this test using a specific example.