Homework

Thursday, October 13

Written homework. Due in writing, at the beginning of class,

> **Thursday, October 20.** 4.31, 4.35, 4.38.

Warmup exercises. To present in class.

> **Tuesday, October 18.** None.
>
> **Thursday, October 20.** 4.45, 4.49, 4.68

Reading assignment. These reading questions cover Section 4.5.

1. Give an example of a decimal expansion that terminates, and an example of a decimal expansion that repeats. What is the period of your repeating decimal, and what is its block?

2. Proposition 4.58 gives an upper bound b for the period of a rational number. Find one rational number that *achieves* that upper bound (period equals b), and one rational number that *does not achieve* that upper bound (period is less than b).

3. Illustrate Lemma 4.60 for $n = 6$, $n = 7$, and $n = 13$.

4. What patterns do you see in Figure 4.9?

5. Illustrate Theorem 4.63 with $n = 5$, and $n = 6$.