

A few problems on real numbers

1. Write the number 1.35294 as a ratio of integers.
2. Write the number $2.\overline{736}$ as a ratio of integers.
3. Write the number $1.4\overline{9}$ as a ratio of integers.
4. Give the decimal representation of some irrational number. Give one that we have not done as an example in class. Give a complete description that allows a reader to determine as many digits of the number as desired.
5. Consider using your calculator to compute $1 - x$ for different values of x . For example, $1 - 0.1$ returns a result of 0.9. Determine the smallest value of x for which your calculator will return the correct value of $1 - x$.
6. Decide if the following statement is true or false: *Between any two real numbers, there are infinitely many rational numbers and infinitely many irrational numbers.* Write an argument to support your conclusion.