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Math 457  
Homework Due Wednesday, April 9

1. Do exercises 3, 7cdh, 8, 9 in Chapter 3.
2. Do exercises 1abdfg and 3abdfg in Chapter 4.
3. Let  $f(x) = \frac{x+4}{5}$ . All the orbits of this function converge to the same number—in fact, it's a rational number. Find this number, express it in lowest terms, and explain why all orbits converge to it.
4. Find the fraction whose binary expansion is  $[101.11001]_2$ .
5. Give the base 2 and base 5 expansions of the decimal number 872.
6. Add the two base 6 numbers  $[425.1]_6$  and  $[43.51]_6$ . Express your answer in base 6 as well.