

# What to Study for the Final Exam

## MTH 3318

### Fall 2024

In preparation for the Final Exam, go to my website:

www.pat-rossi.com  
Academic Links  
MTH 3318

and work through the following:

1. Test #1 - Fall 2024
2. Test #2 - Fall 2024
3. Test #3 - Fall 2024

Know how to do:

4. Group 4 - Real Numbers #3 (Exercises 1, 3, 4, 5, 8)
5. The exercises in **Group 5 - Functions #1**
6. The proof that the set of even integers  $\mathbf{E}$  is countably infinite
7. The proof that  $5\mathbf{Z}$ , the set of integers that are multiples of 5, is countably infinite  
(The proofs of 6, 7 can be found on my website at **Group #5 - Functions 2**)
8. The proof that the set of integers  $\mathbf{Z}$  is countably infinite
9. The proof that  $\mathbf{Q}^+$  is countably infinite
10. The proof that the set of real numbers in the interval  $[0, 1]$  is uncountable  
(The proofs of 9, 10 can be found on my website at **Group #5 - Functions 2a**)
11. The exercises in Group 5 - Functions #1

If you want more practice doing a certain type of exercise, work through similar exercises in:

What to Study for Test #1  
What to Study for Test #2  
What to Study for Test #3

on my website