

1. Page 139: Exercise 10.
2. Page 141: Exercise 15.
3. Page 165: Exercises 1, 2, 3,4, 5, 6, 7.
4. Page 167: Exercises 10, 11.
5. Page 168: Exercise 18.
6. For Theorem 7.12, find an counter-example assuming only that  $\{f_n\}$  converges, but not uniformly.
7. For Theorem 7.16, find an counter-example assuming only that  $\{f_n\}$  converges, but not uniformly.
8. Can you find  $\{f_n\}$  on  $[a, b]$  such that for some  $x_0 \in [a, b]$ ,  $\{f_n(x_0)\}$  converges and  $\{f'_n(x)\}$  converges (but not uniformly), while  $\{f_n(x)\}$  does not converge uniformly.