

## MATH 554 Homework – First Approximation

- section 1.4, page 26: 8, 9, 14cd.
- section 1.5, page 30: 6a, 9.
- section 1.7, page 42: 4b, 5, 7, 13b, 16.
- section 2.1, page 52: 5, 6b, 6d, 8c, 8d, 9b, 10, 15.
- section 2.2, page 59: 1, 2a, 3, 6a, 10, 11a.
- section 2.3, page 65: 1, 4, 9ab, 11, 19.
- section 2.4, page 73: 2, 7, 8, 9, 10, 11.
- section 2.6, page 85: 1, 2abc, 3, 4, 8.
- section 3.1, page 100: 1, 2, 5, 6, 13. Problem 6a is false as written. Give a counterexample. The correct result to prove is that the arbitrary UNION of open sets is an open set.
- section 3.2, page 107: 1, 3, 4, 10b.
- section 4.1, page 128: 1a, 2ce, 3abcde, 4, 11, 12, 13.
- section 4.2, page 141: 1a, 2, 5b, 6a, 7, 12c, 16, 19, 22, 23.
- section 4.3, page 147: 1, 2a, 3ab, 4b, 8, 10, 14.
- section 5.1, page 174: 1a, 5ab, 9, 10.
- section 5.2, page 187: 3a, 6, 9ab, 11, 16, 17.
- section 5.3, page 196: 2, 4, 5.
- section 6.1, page 221: 3, 6, 7a, 10, 11, 12b, 14, 15, 16, 17.
- section 6.2, page 229: 1, 4, 6.
- section 6.3, page 236: 1, 9, 12, 13.