

# Contents

	Problems/ Solutions	Pages
1. Set algebra	1–7	3–4/67–68
2. Topology	8–37	5–7/69–75
3. Limits	38–49	8–9/76–78
4. Continuous functions	50–94	10–14/79–88
5. Functions from $\mathbb{R}^n$ to $\mathbb{R}^m$	95–133	15–19/88–100
6. Measure and topology	134–151	20–22/101–108
7. General measure theory	152–187	23–27/109–117
8. Measures in $\mathbb{R}^n$	188–216	28–30/118–125
9. Lebesgue measure in $\mathbb{R}^n$	217–248	31–34/126–132
10. Lebesgue measurable functions	249–274	35–37/133–138
11. $L^1(X, \mu)$	275–321	38–42/139–148
12. $L^2(X, \mu)$ or $\mathfrak{H}$ (Hilbert space)	322–361	43–46/149–158
13. $L^p(X, \mu)$ , $1 \leq p \leq \infty$	362–373	47–48/159–164
14. Topological vector spaces	374–422	49–54/165–177
15. Miscellaneous problems	423–518	55–64/178–202
Bibliography		203
Glossary of symbols		205
Index/Glossary		213