

1-19-18 pp 4-7, 10-12

Exercise 1.4.4 p. 11

chart, atlas, smooth manifold

1-26-18 pp 15-16, 24-27

Exercise 2.1.18 p. 23

Exercise 2.2.8 p. 27

submanifold of Euclidean space, tangent space

2-2-18 pp 28-30

derivative

2-9-18 pp 33-36

submanifolds (of a submanifold of Euclidean space)
embedding

2-16-18 pp 37-39

Exercise 2.4.2 p. 37

vector field, integral curve

2-23-18 pp 40-50

Exercise 2.4.13 p. 42

Exercise 2.4.24 p. 49

flow of a vector field, complete vector field

Lie bracket of vector fields

3-2-18 pp 51-56

Exercise 2.5.4 p. 52

Exercise 2.5.7 p. 53

Exercise 2.5.8 p. 54

Lie group, Lie algebra of a Lie group

exponential map

3-9-16 pp. 57-60

Lie group homomorphism Exercise 2.5.20 p. 60

 $\text{Aut}(\mathfrak{g})$ (the automorphism group of a Lie algebra) $\text{Der}(\mathfrak{g}) (= \text{Lie}(\text{Aut}(\mathfrak{g})))$

3-16-18 pp 61-64

Exercise 2.5.21 p. 61

Exercise 2.5.22 p. 61

 $\mathcal{F}(M)$ (= $\mathbb{R}$ algebra of real valued smooth functions)algebra homomorphism of $\mathcal{F}(M)$, $\text{Aut}(\mathcal{F}(M))$, $\text{Der}(\mathcal{F}(M))$ 