# 2019 第四季度习题集

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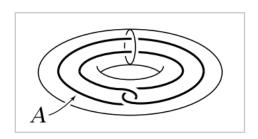
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## Contents

## 1   Hatcher 习题

**Problem 1** *(pg 39 problem 16.(c): Unsolved). $X = S^1 \times D^2$., A is the circle in the following graph, Prove that there is no retract form X to A.*



**Problem 2** *(pg 39 problem 16.(d): Unsolved). $X = D^2 \vee D^2$, $A = S^1 \vee S^1$.* 证明没有 $X$ 到 $A$ 的 *retract*

## 2   杂题

**Problem 3** 只有有限个素理想的戴德金 *domain* 是个主理想环.