

# Fall 2015 Notes

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## 1 MA557 Notes (Fall 2015)

### 1.1 Lecture 1 (August 24, 2015)

#### General Facts on Rings

- $R$  is a ring if
  - (i)  $R$  is an Abelian group with respect to  $+$ .
  - (ii)  $\cdot$  is associative, commutative, distributive and has 1.
- $R, S$  rings,  $\varphi: R \rightarrow S$  is a *homomorphism* (of rings) if
  - (i)  $\varphi(x + y) = \varphi(x) + \varphi(y)$ .
  - (ii)  $\varphi(1_R) = 1_S$ .
- $I \subset R$  is an  *$R$ -ideal* if  $I$  is a subgroup of  $R$  with respect to  $+$  and  $RI \subset I$ .

**1.2**



**1.4**

1.5

1.6



1.7

1.8

## **2 MA571 Notes (Fall 2015)**

### **2.1 Lecture 1**

**2.2**



**2.4**

2.5

**2.6**



2.7

2.8

### **3 Kaufmann's 571 Problems**

#### **3.1 Midterm (Fall 2014)**

#### **3.2 Final (Fall 2014)**

## 4 MA692 (Wavelets and Approximation Theory) Notes (Fall 2015)

### 4.1 Lecture 1

## 4.2 Lecture

### 4.3 Lecture

## 4.4 Lecture

## 4.5 Lecture



## 4.6 Lecture

## 4.7 Lecture

## 4.8 Lecture