

# MA 544: Homework 4

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**PROBLEM 4.1**

*Proof.*



**PROBLEM 4.2**

*Proof.*



**PROBLEM 4.3**

*Proof.*



**PROBLEM 4.4**

*Proof.*



**PROBLEM 4.5**

*Proof.*



**PROBLEM 4.6**

*Proof.*





**PROBLEM 4.7**

*Proof.*



**PROBLEM 4.8**

*Proof.*



**PROBLEM 4.9**

*Proof.*



**PROBLEM 4.10**

*Proof.*

