

**Homework 1**  
**due Thurs., Jan. 29**

(1) prove that a norm on a vector space  $V$  satisfies

$$|\|u\| - \|v\|| \leq \|u - v\| \text{ for all } u, v \in V.$$

(2) #5 p. 33

(3) #6 and #7 p. 33

(4) #12 and #13 p. 34

(5) #15 p. 34

(6) #17 p. 34