

## MATH 402 Homework 3

Due Friday 2/9/18

- (1) (10 pts.) Solve 4.1.1 and 4.1.2.
- (2) (10 pts.) Solve 4.1.3, 4.1.4
- (3) (5 pts.) Problems 2.2.2
- (4) (10 pts.) Solve problem 2.5.1
- (5) (15 pts.) Assume that a point  $B$  is between points  $A$  and  $C$  on a line, and that point  $D$  is between points  $A$  and  $E$  on another line. Show that the segment  $BE$  intersects the line segment  $CD$  at a point  $M$ . (Hint: You will have to use Hilbert's axioms of betweenness and ideas from worksheet 2).