

**Homework 4, due in class Friday, Feb 6****Turn in :**

- Exercises 15 p.94 (10 points)
- Review exercises (1)-(7)p. 145 (14 points)
- Exercise 1 p. 147 (12 points)
- Give an example of a model of incidence geometry for which Betweenness axioms 1 and 3 hold but Betweenness axiom 2 doesn't hold.(10 points)
- Consider the usual Euclidian plane with usual points, lines and incidence relation. Define betweenness in the following way. For three distinct points  $A$ ,  $B$  and  $C$  we say  $A$  is between  $B$  and  $C$  if either:
  - $A$ ,  $B$  and  $C$  lie on the same non-vertical line and  $A$  is to the left of both  $B$  and  $C$
  - $A$ ,  $B$  and  $C$  lie on the same vertical line and  $A$  is below both  $B$  and  $C$ .

Which of the four betweenness axioms hold ? Your arguments can be informal.(10 points)

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