Math576 Combinatorial Game Theory

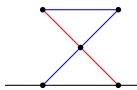
Homework 1

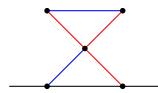
due midnight of Friday, Sept. 4, 2020

Submission method: Your answers to Homework 1 must be converted into a single pdf file. Then login to Blackboard. Click on assignments/homework1. Upload your answers. You can try to upload twice. Only last version will be graded.

- 1. Draw two red-blue Hackenbush games with the same game value $\frac{5}{8}$.
- 2. State the simplicity rule. Use it to find the following game values:

 - $(a) \ \{\frac{3}{4} \mid 2\frac{1}{4}\} \qquad \quad (b) \ \{-2, -1 \mid -\frac{1}{2}\} \qquad \quad (c) \ \{0 \mid \frac{3}{4}, 1\} \qquad \quad (d) \{0, 1 \mid 1\frac{1}{2}, 2\}$
- 3. Find the values of the following Hackenbush games.





4. Find the value of the following ski-jump game.

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5. Find the value of the following Toad-and-Frog game. If Right Left starts first, what is his best first move? (Left moves Toads (T) eastwards and Right moves Frogs (F) westwards.)

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