

Math 1007 Spring 2026
Mathematics and Politics
Homework 12 Due on Blackboard
Tuesday, April 28 at 4:45 PM

Name:

Make sure to explain why all your answers are correct! Remember that you should be making short persuasive arguments. (This explanation can take the form of showing calculations, or of a couple sentences of writing, depending on the question.)

- (1) (18 points total) Do *The Mathematics of Politics* problem 16.4
- (2) Consider the situation described in Math and Politics 16.6. Set this up as a non-zero-sum game. Draw a flow diagram and identify any saddle points. Draw the payoff polygon. Which of the five games we discussed in class is this most like?
- (3) Do *The Mathematics of Politics* problem 16.8. Which of the five games we discussed is this most like?
- (4) Do *The Mathematics of Politics* problem 18.2

(Because the textbook has a misprint in some versions I copied the question here)

18.2. Consider a game with the following payoff bimatrix.

2, 2	1, 3
3, 1	x, x

For what values of x is this the Prisoner's Dilemma? For what values of x is it Chicken?