Dr. Adam Graham-Squire, Fall 2019

.

I pledge that I have neither given nor received any unauthorized assistance on this exam.

_____

(signature)

DIRECTIONS

1. Don't panic.

2. I don't hate you (but somebody does).

3. **Show/explain all of your work**. A correct answer with insufficient work will lose points.

4. Read each question carefully, and make sure you answer the question that is asked. If the question asks for an explanation, make sure you give one.

5. Clearly indicate your answer.

6. Calculators are allowed on this test, but any other technology (cell phones, computers, etc) is NOT allowed without prior authorization.

7. Make sure you sign the pledge.

8. Number of questions = 4. Total Points = 20.

.

(6 points) The "Later No Harm" criterion is satisfied if, in any election for a particular voting method, a voter (or group of voters) giving an additional ranking or positive rating to a less-preferred candidate can not cause a more-preferred candidate to lose. For example, the <u>Bucklin</u> method *fails* Later No Harm, which you can see from this example:

Number of voters	8	2	4	6	3
1st choice	A	B	C	D	D
2nd choice	C	A	D	B	C
3rd choice	D	D	B	A	B
4th choice	B	C	A	C	A