MA111-008 Mini Exam1

Name:_____

1. This question refers to the following 9 people:

Amari Bl		Bla	lair Cha			arlie Dakota				Emerson						
1st	(Ovid's		1st	(Ovid's	1s	t	Ovid's		1st	K-Lair		1st		K-Lair
2nd	ŀ	K-Lair		2nd	K-Lair		2nd K-Lair		2nd Subway			2nd		Subway		
3rd	\mathbf{S}	ubway		3rd	\mathbf{S}	ubway	3rc	1 5	Subway		3rd Lo	ocal Tac	o	3rd	Lo	ocal Taco
4th	Loc	cal Tac	o	4th	Lo	cal Taco	4tł	n Lo	cal Tac	o	4th	Ovid's		4th		Ovid's
		1st 2nd 3rd 4th	Fin Lo S	l ey cal Taco Subway K-Lair Ovid's		Hay 1st Lo 2nd S 3rd 4th	r den cal T Subwa K-Lai Ovid'	aco vy r s	1st 2nd 3rd 4th	Jus S Lo	tice Subway K-Lair cal Taco Ovid's	1st 2nd 3rd 4th	Pho (S I Lo	e nix Ovid's ubway K-Lair cal Tac	0	

(a) Write down the preference schedule:

1st	Ovid's	K-Lair	Local Taco	Subway	Ovid's
2nd	K-Lair	Subway	Subway	K-Lair	Subway
3rd	Subway	Local Taco	K-Lair	Local Taco	K-Lair
$4 \mathrm{th}$	Local Taco	Ovid's	Ovid's	Ovid's	Local Taco

(b) How many first place votes did each candidate get?

(c) Which restaurant would be chosen by the "plurality" method?

(d) Which restaurant would be eliminated first using the "plurality with elimination" method?

(e) After that restaurant is eliminated, how many first place votes do the remaining candidates get?

2. Explain how to find the winner by Daisia's rule. (Pretend you are explaining it to someone who understands ballots and preference schedules, but has never heard of Daisia's rule; for instance someone in the other sections of MA111.)

3. Construct a preference schedule where Ovid's wins by Daisia's rule, but K-Lair wins by Plurality. (You can make more columns if you need to.)

1st	Ovid's	K-Lair	Local Taco	Subway	Ovid's
2nd	K-Lair	Subway	Subway	K-Lair	Subway
3rd	Subway	Local Taco	K-Lair	Local Taco	K-Lair
$4 \mathrm{th}$	Local Taco	Ovid's	Ovid's	Ovid's	Local Taco

4. A group is trying to decide on lunch.

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	Alex		Blake	Chase			
1st	K-Lair	1st	Ovid's	1st	Subway		
2nd	Ovid's	2nd	Subway	2nd	QDoba		
3rd	Subway	3rd	QDoba	3rd	K-Lair		
$4 \mathrm{th}$	QDoba	4th	K-Lair	$4 \mathrm{th}$	Ovid's		

(a) Write down a bracket where Ovid's wins.



(b) Write down a bracket where Subway wins. (Go Jared!)



(c) Are there any Condorcet winners?

MA111-008 Mini Exam1

Name:_____

1. This question refers to the following 9 people:

										_					
Amari		Bla	Blair		Charlie		Dakota			Emerson					
1st	\mathbf{S}	ubway		1st	1st Subway		1st Subway		1st Local Taco		o	1st	Local Taco		
2nd	Lo	cal Tac	o	2nd	Lo	ocal Taco 2nd Lo		Lo	cal Taco		2nd	Ovid's		2nd	Ovid's
3rd	(Ovid's		3rd	(Ovid's	3rd		Ovid's		3rd	K-Lair		3rd	K-Lair
4th	ł	K-Lair		4th	ł	K-Lair	4th]	K-Lair		4th S	Subway		4th	Subway
		1st 2nd 3rd 4th	Fin Lo	l ey K-Lair Ovid's cal Tacc Subway)	Hay 1st 2nd 3rd Lo 4th S	den K-Lair Ovid's ocal Tac Subway	o	J 1st 2nd 3rd 4th	us (Lo] S	tice Ovid's cal Taco K-Lair ubway] 1st 2nd 3rd 4th	Phoe S (Loe H	e nix ubway Ovid's cal Taco K-Lair)

(a) Write down the preference schedule:

1st	Subway	Local Taco	K-Lair	Ovid's	Subway
2nd	Local Taco	Ovid's	Ovid's	Local Taco	Ovid's
3rd	Ovid's	K-Lair	Local Taco	K-Lair	Local Taco
4th	K-Lair	Subway	Subway	Subway	K-Lair

(b) How many first place votes did each candidate get?

(c) Which restaurant would be chosen by the "plurality" method?

(d) Which restaurant would be eliminated first using the "plurality with elimination" method?

(e) After that restaurant is eliminated, how many first place votes do the remaining candidates get?

2. Explain how to find the winner by Daisia's rule. (Pretend you are explaining it to someone who understands ballots and preference schedules, but has never heard of Daisia's rule; for instance someone in the other sections of MA111.)

3. Construct a preference schedule where Subway wins by Daisia's rule, but Local Taco wins by Plurality. (You can make more columns if you need to.)

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1st	Subway	Local Taco	K-Lair	Ovid's	Subway
2nd	Local Taco	Ovid's	Ovid's	Local Taco	Ovid's
3rd	Ovid's	K-Lair	Local Taco	K-Lair	Local Taco
$4 \mathrm{th}$	K-Lair	Subway	Subway	Subway	K-Lair

4. A group is trying to decide on lunch.

	Alex		Blake	Chase		
1st	Local Taco	1st	Subway	1st	Ovid's	
2nd	Subway	2nd	Ovid's	2nd	QDoba	
3rd	Ovid's	3rd	QDoba	3rd	Local Taco	
$4 \mathrm{th}$	QDoba	4th	Local Taco	4th	Subway	

(a) Write down a bracket where Ovid's wins.



(b) Write down a bracket where Subway wins. (Go Jared!)



(c) Are there any Condorcet winners?