Exam 1 Practice

#1

4	2	3
A	B	C
B	C	B
C	A	A

A: 4
B: 2
C: 3

A wins plurality

#2

Round 1:

A: 4
~~B: 2~~
C: 3

Round 2:

4	2	3
A	C	C
C	A	A

A: 4
C: 5

C wins RCV

#3

A v (B): A: 4, B: 2+3 = 5

A v (C): A: 4, C: 2+3 = 5

(B) v C: B: 4+2 = 6, C: 3

B wins Condorcet

#4

4	2	3	
A	B	C	2
B	C	B	1
C	A	A	0

A: 4·2 + 0 + 0 = 8

B: 4·1 + 2·2 + 3·1 = 4+4+3 = 11

C: 0 + 2·1 + 3·2 = 2+6 = 8

B wins Borda.

#5 Even if one candidate is ranked 1st by a majority, the dictator may choose someone else to win.

So the majority winner may not actually win in a dictatorship

#6

4	3	2
A	C	B
C	A	C
B	B	A

OG results: A: 4, B: 2, C: 3 — A wins.

The B voters hate this outcome. They can change

to C, B, A. Then it looks like:

4	3	2
A	C	C
C	A	B
B	B	A

A: 4, B: 0, C: 5 — C wins!

This is a preferable outcome for those voters, so this is a manipulation.

#7 This is not the same. "Random dictator" chooses a ballot at random, which means a candidate with more votes is more likely to be chosen.

That's different from just choosing the winner at random, which would make all outcomes equally likely.

#8 It would be:

	3	4	2
A	✓	✓	
B		✓	✓
C			✓
D	✓		

A: 7
B: 6
C: 2
D: 3

A wins

#9 May possible answers

a) [5 : 6, 1, 1]

b) [10 : 7, 7, 1, 1] the 1's are both dummies

c) [10: 7, 7, 1, 1] each 7 has veto power, but neither is a dictator.

#10 [15: 12, 10, 3]

perms	weights	pivotal
A B C	12 (10) 3	B
A C B	12 (3) 10	C
B A C	10 (12) 3	A
B C A	10 3 (12)	A
C A B	3 (12) 10	A
C B A	3 10 (12)	A

A: 4/6
B: 1/6
C: 1/6