

Math 1015 HW #5

#1, 3, 4a, 5a

#1 A B C
[15: 10, 7, 3]

combos	total	crit		
		A	B	C
A B C	20	✓	✓	
A B	17	✓	✓	
A C	13			✓
B C	10			✓
A	10	✓		
B	7	✓		
C	3			✓
∅	0			

A: $2/4 = 50\%$
 B: $2/4 = 50\%$
 C: $0/4 = 0\%$

#3 [20: 10, 7, 5, 5]

combos	total	A B C D			
		A	B	C	D
A B C D	27	✓			
A B C	22	✓	✓	✓	
A B D	22	✓	✓		✓
A C D	20	✓		✓	✓

A: $4/10 = 40\%$
 B: $2/10 = 20\%$
 C: $2/10 = 20\%$
 D: $2/10 = 20\%$

combos	total	A B C D			
		A	B	C	D
A B C D	17				
A B	10	✓	✓		
A C	7	✓		✓	
A D	5	✓			✓
B C D	7		✓	✓	✓
B D	5		✓		✓
C D	5			✓	✓
A B C D	10	✓	✓	✓	✓
A B	7	✓	✓		
A C	5	✓		✓	
A D	5	✓			✓
B C D	5		✓	✓	✓
B D	5		✓		✓
C D	5			✓	✓
∅	0				

4a 20 L, 20 D, make 4 districts of 10 each.

In each district, we'll need 6 to win.

So L can win up to 3, (this would need 8)

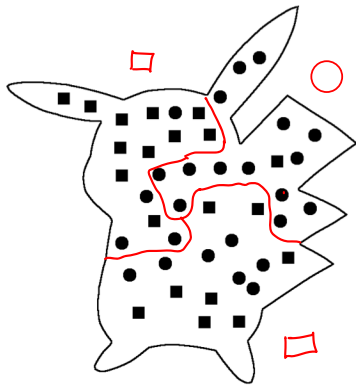
& D can win up to 3.

Not possible for either to win 4, which would need 24 votes.

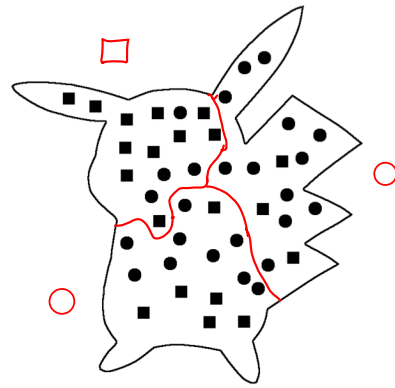
The possible outcomes are:

1L/3D, 2L/2D, 3L/1D

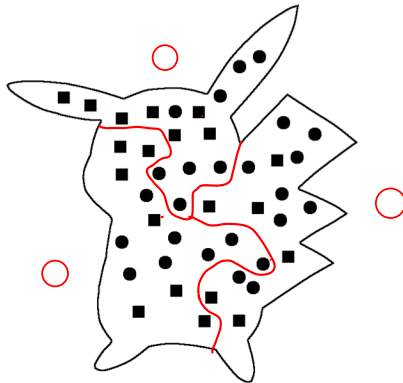
5a



2□/1●



1□/2●



0□/3●