#2   RCV satisfies the Majority Winner Crit.

Proof Imagine X is ranked 1st place by a majority of voters. Then X will always have a majority of 1st place votes in every round, so X is never eliminated.

Therefore X wins using RCV.

#4b   We need an example where someone is ranked last by a majority of voters, but still wins:

5	5	6
A	B	C
B	A	A
C	C	B

Here C wins with plurality, even though 10 out of 16 voters ranked C last.

#5a

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

Using plurality, OG winner is B.

The
D
A
C
B

voters should instead say
A
D
C
B

. Then it would

look like:

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

Now A wins, which is preferable in their opinion because they like A better than B.

#7

375	282	85	83	82	47	35	31	29	→ Total: 1649
M	C	L	M	C	C	L	L	M	
L		M		L	M		C	C	

M: 375 + 83 + 29 = 487

C: 282 + 82 + 47 = 411

L: 85 + 35 + 31 = 151

$$M: \frac{487}{1049} = 46.4\%$$

$$C: \frac{411}{1049} = 39.2\%$$

$$L: \frac{151}{1049} = 14.4\%$$