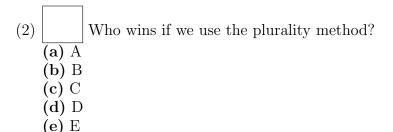MAT 118, Chapter 1 Sample Questions.
Exam on Monday, Sept 16, 2013 in Lgt Eng 102 (usual lecture room.)
Actual exam will be 25 multiple choice questions.

THE FOLLOWING TABLE IS USED FOR PROBLEMS 1-4. It shows the preferences of voters between five canidates called A, B, C, D and E. For example, 5 voters rank the candidates in the order: A (favorite), B, C, D, E (least favorite).

Number of Voters	5	3	5	3	2	3
1st choice	C	C	A	D	D	B
2nd choice	B	D	E	A	A	E
3rd choice	A	B	D	B	B	C
4th choice	D	A	C	E	C	A
5th choice	E	E	B	C	E	D

(1) ☐ How many people voted in this election?
(a) 18
(b) 19
(c) 21
(d) 22
(e) 23
(f) none of these.

(2) ☐ Who wins if we use the plurality method?
(a) A
(b) B
(c) C
(d) D
(e) E
(f) its a tie

(3) ☐ If only C and D ran in the election, who would win and with how many votes?
(a) C with 11 votes
(b) D with 11 votes
(c) C with 12 votes
(d) D with 12 votes
(e) C with 13 votes
(f) none of these.

(4) ☐ Who wins the election under the plurality-with-elimination method?
(a) A
(b) B
(c) C
(d) D
(e) E
(f) no one wins a plurality.

(5) ☐ Which of the following voting systems are fair, i.e., satisfies the majority, Condorcet, monotinicity and indenpendence-of-irrelvant-alternatives criteria?
(a) plurality method
(b) Borda count method
(c) plurality with elimination
(d) pairwise comparison method
(e) Coombs method
(f) none of these.

(6) ☐ If there are 7 candidates in an election, how many head-to-head contests need to be considered in the pairwise comparison method?
(a) 10
(b) 15
(c) 21
(d) 24
(e) 42
(f) none of these.

(7) ☐ What criterion says "If a canidate X has a majority of the first place votes, then canidate X should win the election."
(a) The plurality criterion
(b) The majority criterion
(c) Arrow's criterion
(d) Borda's criterion
(e) The fairness criterion
(f) none of these

(8) ☐ The 2006 AP college football poll ranked 25 teams using the Borda count method (25 points for first place, 24 points for second, ...). Ohio State got 1625 points and was the unanimous choice for first place. How many voters took part in the poll?
(a) 50
(b) 55
(c) 60
(d) 65
(e) 70
(f) none of these