

MAT 135P - Math for Liberal Arts Plus

Voting Theory Content

Required course textbook: *Contemporary Mathematics* from OpenStax

Voting Theory Just-In-Time Math Skills Support

Prealgebra:

Know the Following Definitions	Contemporary Mathematics	Suggested HW or Practice Problems
Integers	Sec 3.2, pg. 149	YOUR TURN 3.26, pg.150 Sec 3.2 Exercises, pg.157 # 1,2
Fractions	Sec 3.4, pg. 165-167 (Rational Numbers)	YOUR TURN 3.52, pg. 169 Sec 3.4 Exercises pg. 188 # 1-3
Be Able To	Contemporary Mathematics	Suggested HW or Practice Problems
Add Integers	Sec 3.2, pg. 153-154	YOUR TURN 3.33 -3.37, pg. 154-155 Sec 3.2 Exercises, pg. 157-158 # 21-26, 39, 41
Subtract Integers	Sec 3.2, pg. 153-154	YOUR TURN 3.33 -3.37, pg. 154-155 Sec 3.2 Exercises, pg. 157-158 # 21-26, 39, 41
Multiply Integers	Sec 3.2, pg. 155-156	YOUR TURN 3.38 -3.41, pg. 155-156 Sec 3.2 Exercises, pg. 157 # 27-36, 40
Divide Integers	Sec 3.2, pg. 155-156	YOUR TURN 3.38 -3.41, pg. 155-156 Sec 3.2 Exercises, pg. 157 # 27-36, 40
Reduce Fractions	Sec 3.4, pg. 169-172	YOUR TURN 3.53-3.54, pg. 170-171 Sec 3.4 Exercises pg. 188 # 4-8

Be Able To	Contemporary Mathematics	Suggested HW or Practice Problems
Add Fractions	Sec 3.4, pg. 172-176	YOUR TURN 3.55, 3.56, 3.58 pg. 172-174 Sec 3.4 Exercises pg. 189 # 19-20, 27-32
Subtract Fractions	Sec 3.4, pg. 172-176	YOUR TURN 3.57, 3.59 pg. 174-175 Sec 3.4 Exercises pg. 189 # 21-22, 27-32
Multiply Fractions	Sec 3.4 pg. 178	YOUR TURN 3.66, pg. 178 Sec 3.4 Exercises pg. 189 # 23-24, 27-32, 47-52
Divide Fractions	Sec 3.4 pg. 179	YOUR TURN 3.67, pg. 179 Sec 3.4 Exercises pg. 189 # 25-32

Voting Theory Applications

Know the Following Definitions	Contemporary Mathematics	Suggested HW or Practice Problems
Preference list ballots	Sec 11.1, pg. 1136-1138 (they display the info differently than the previous book)	YOUR TURN 11.5, pg. 1137-1138
Majority rule	Sec 11.1, pg. 1130-1131	YOUR TURN 11.1, pg. 1131 Sec 11.1 Exercises pg. 1157-1159 # 7-10, 21, 29
Condorcet winner	Sec 11.1, pg. 1144 (called Condorcet Candidate)	N/A
Be Able To	Contemporary Mathematics	Suggested HW or Practice Problems
Apply the plurality method	Sec 11.1, pg. 1131-1132	YOUR TURN 11.2, pg. 1132 Sec 11.1 Exercises pg. 1156-1157 # 1, 8, 10
Determine a Condorcet winner	Sec 11.1, pg. 1144-1150	YOUR TURN 11.9-11.11 pg. 1147-1149 Sec 11.1 Exercises pg. 1156-1160 # 5, 45-50
Apply the Borda count method	Sec 11.1, pg. 1141-1143	YOUR TURN 11.7 and 11.8, pg. 1142-1143 (11.8 includes a Ranked Choice count) Sec 11.1 Exercises pg. 1156-1161 # 4, 5, 32-35, 42, 43, 58
Apply a pairing agenda	N/A (Pairwise Voting is part of Condorcet, but they don't cover agendas)	N/A
Apply the survivor algorithm	Sec 11.1, pg. 1132-1136 (called the Hare Method)	YOUR TURN 11.4, pg. 1136 Sec 11.1 Exercises pg. 1156-1158 # 1, 13-20