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WALKING

A. Weighted Voting Systems

1. Consider the weighted voting system [13: 7, 4, 3, 3, 2, 1]. Find

(a) the total number of players

(b) the total number of votes

(c) the weight of P_2

(d) the minimum percentage of the votes needed to pass a motion (rounded to the next whole percent)

3. Consider the weighted voting system [q: 10, 6, 5, 4, 2].

(a) What is the smallest value that the quota q can take?

(b) What is the largest value that the quota q can take?

(c) What is the value of the quota if *at least* two-thirds of the votes are required to pass a motion?

(d) What is the value of the quota if *more* than two-thirds of the votes are required to pass a motion?

5. A committee has four members (P_1, P_2, P_3, and P_4). In this committee P_1 has twice as many votes as P_2; P_2 has twice as many votes as P_3; P_3 has twice as many votes as P_4. Describe the committee as a weighted voting system when the requirements to pass a motion are

(a) at least two-thirds of the votes

(b) more than two-thirds of the votes

(c) at least 80% of the votes

(d) more than 80% of the votes

7. In each of the following weighted voting systems, determine which players, if any, (i) are dictators; (ii) have veto power; (iii) are dummies.

(a) [6: 4, 2, 1]

(b) [6: 7, 3, 1]

(c) [6: 5, 5, 1]

9. In each of the following weighted voting systems, determine which players, if any, (i) are dictators; (ii) have veto power; (iii) are dummies.

(a) [19: 9, 7, 5, 3, 1]

(b) [15: 16, 8, 4, 1]

(c) [17: 13, 5, 2, 1]

(d) [25: 12, 8, 4, 2]