Instructions: Show all work. Be sure to answer all parts of each question.

1. Consider the weighted voting system given by [q: 18, 12, 10, 7; 5, 5, 3, 1, 1, 1].
    a. How many players are in this voting system?

    10 players,

    b. What is the minimum possible value of the quota for this system?

    32

    c. What is the largest possible value for the quota for this system?

    63

    d. What would the value of the quota be in 2/3 of the total weighted votes are needed to pass a measure?

    42

    e. For the value of q=38, are there any dummies? Dictators?

    no dictators , no dummies
    [Consider the coalition $\{P1, P2, P4, P8\}$
    or $\overline{P9}$ or P10
    last player is critical

    f. For the value of q=38, does anyone have veto power?

    no

    g. List three winning coalitions. for q = 38

    $\{P1, P2, P3\}$
    $\{P1, P2, P4, P5\}$
    $\{P1, P2, P4, P8\}$
    $\{P2, P3, P4, P5, P6\}$

    etc.

    answers will vary.