Allocation Rules and District Magnitude

<u>Formulae</u>:

Plurality: $s = v_1$ where s stands for the number of seats in the district which go to the party that has the highest party vote total ($v_1 > v_2 > v_3 \ldots v_k$)

Hare: $q_o = V/M$ where V stands for the total votes in a district divided by the number of seats (M) to yield the number of votes entitled to a seat (q_o)

Droop: $q_1 = V/(M + 1)$ where V stands for the total votes in a district divided by the number of seats (M) plus one to yield the number of votes entitled to a seat (q_1)

d'Hondt: $a = v/(s + 1)$ where v stands for a party's votes divided by the number of seats (s) already allocated plus one to yield the party average (a) with a set of successive divisors (1,2,3,4)

<u>1. Question (make sure to show your work)</u>:

For a district of $M = 3$ with four parties competing and a percent vote distribution among them of 41-35-15-9, determine the allocation of seats using the following allocation rules:

	Party A (41%)	Party B (35%)	Party C (15%)	Party D (9%)
Plurality				
Hare (largest remainders)				
Droop (largest remainders)				
d'Hondt				

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2. Question (make sure to show your work):

For a district of $M = 20$ with four parties competing and a percent vote distribution among them of 41-35-15-9, determine the allocation of seats using the following allocation rules:

	Party A (41%)	Party B (35%)	Party C (15%)	Party D (9%)
Plurality				
Hare (largest remainders)				
Droop (largest remainders)				
d'Hondt				