

Answer to iClicker Question #0

Given the following individuals with the following genotypes:

<u>Genotype</u>	<u>Number</u>	<u># of A alleles</u>	<u># of a alleles</u>
AA	10	20	0
Aa	10	10	10
aa	80	0	160
	Total:	30	170

What are the frequencies of the A and a alleles in this population?

Note that each individual contributes 2 alleles to the 'gene pool':

- each AA contributes 2 A's = 20 A's in this case.
- each Aa contributes one A and one a = 10 A's and 10 a's in this case.
- each aa contributes 2 a's = 160 a's in this case

This makes a 'gene pool' of 200 alleles; 30 A's and 170 a's. Thus, (D) is the only correct answer. See notes below:

(A) is wrong presumably because you did not double the number of alleles that each AA and aa contributes to the pool. Also, the sum of the frequencies **must** = 1 and it does not ($0.2 + 0.9 = 1.1$)

(B) is wrong because, although the size of the gene pool is correct, presumably you did not double the number of alleles that each AA and aa contributes to the pool. Also, the sum of the frequencies **must** = 1 and it does not ($0.1 + 0.45 = 0.55$)

(C) is wrong because, although the 2 frequencies do add up to 1, presumably you did not double the number of alleles that each AA and aa contributed to the pool.