

Charlie invited James and Caroline to give him sets of five integers (whole numbers).

Each time he chose three integers that added together to make a multiple of 3:

					TOTAL
3	6	5	7	2	18
7	17	15	8	10	39
20	15	6	11	12	33
23	16	9	21	36	48
99	57	5	72	23	228
312	97	445	452	29	861
-1	-1	0	1	1	0

Charlie challenged Caroline and James to find a set of five integers that didn't include three that added up to a multiple of 3.

Can you find a set of five integers that doesn't include three integers that add up to a multiple of 3?

If not, can you provide a convincing argument that you can always find three integers that add up to a multiple of 3?