Power Mad!

Powers of numbers behave in surprising ways. Can you find convincing arguments that explain why all the statements below are true?

a) 2^1+3^1, 2^3+3^3, 2^5+3^5, ... , $2^{99}+3^{99}$ are all multiples of 5.

b) $1^{99}+2^{99}+3^{99}+4^{99}$ is a multiple of 5.

c) $1^x+2^x+3^x+4^x+5^x$ is a multiple of 5 when x is odd.