

# Reading Quiz §2

1. [5] True/False: If the statement is *always* true, give a *brief* explanation of why it is (not a formal proof!). If the statement is false, give a counterexample. Let  $G$  be a group written multiplicatively and let  $a$ ,  $b$ , and  $c$  be elements of  $G$

(a) There may be more than one identity.

(b) If  $ba = ca$  then  $b = c$ .

(c)  $(ab)^2 = a^2b^2$

(d)  $(a^2b)cb^{-1} = a^2(bc)b^{-1}$

(e) Nonabelian groups played a role in quantum theory.