CHEM 225 Name: _____

**Quiz 1**
**February 11, 2019**

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1. Which of the following is equal to $\langle pq \,||\, rs \rangle$?

   (A) $\displaystyle\int_\tau d\tau \; \chi_p^*(1)\chi_q(1)\frac{1}{r_{12}}\chi_r^*(2)\chi_s(2)$

   (B) $\displaystyle\int_\tau d\tau \; \chi_p^*(1)\chi_q(2)\frac{1}{r_{12}}\chi_r^*(2)\chi_s(1)$

   (C) $\displaystyle\int_\tau d\tau \; \chi_p^*(1)\chi_q^*(2)\frac{1}{r_{12}}\chi_r(1)\chi_s(2)$

   (D) $\displaystyle\int_\tau d\tau \; \chi_p^*(1)\chi_q^*(2)\frac{1}{r_{12}}\chi_r(2)\chi_s(1)$

   (E) None of the above.

2. Write a Slater determinant for a 3-electron system using the independent particle model where the wave function is constructed from 3 spin orbitals $\chi_a$, $\chi_b$, and $\chi_c$. Number the electrons as 1, 2, and 3.