Open book and closed notes.
Show your work for credit and place a box around your answers.

1. Simplify each of the following Boolean equations using Boolean theorems. (4 points)
   a. $Z = \bar{A}\bar{B}C + A\bar{B}C$
   b. $Z = ABC\bar{D} + A\bar{B}CD + (\overline{A + B + C + D})$
   c. $Z = AB + \bar{A}BC$
   d. $Z = ABC\bar{B}$