**EXERCISE #10: counting π electrons and determining the presence of aromaticity**

Organic Chem II Alfred State College

**10a) Determine the # of pπ electrons in each of the molecules below**

*notes on pπ e-  counting*

 ...2pπ electrons for each double bond; radicals may count as pπ as long as all sigma bonds are first satisfied and filled;







CH2=CH2

(C2 H4) (C3H4) (C3H3\*radical) C3H3 + (cation)

 2 2 3 2 =# pπ

 **AROMATIC ?**

yes **no** yes **no**  yes  **no** **yes** no









 6 5 7 6 = # pπ

**AROMATIC ?**

 yes  **no** yes **no** yes **no**   **yes** no

**b) determine whether each of the molecules above is aromatic** (circle yes no )

1) must be flat

2) must have conjugation (at least one double-single combo)

3) must obey 4n+2 pπ count rule