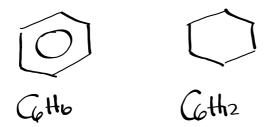
### Warm Up

## Worksheet 47 - Questions?

### Common Mistakes...

Benzene vs. Cyclohexane



Benzene as a branch (phenyl)

1,2 1,3 1,4 ortho, meta, para-dimethylbenzene

dimethyl-2-butene

$$-\frac{1}{C+3} - \frac{1}{C+3} - \frac{1}{C+3} = \frac{1}{C+3}$$

#### Reactions

**cracking** - reaction in which hydrocarbons are broken into smaller fragments

• this reaction occurs in the absence of air, and with a catalyst or heat, to speed up the reaction.

Ex. 
$$C_{17}H_{36(l)} \longrightarrow C_9H_{20(l)} + C_8H_{16(l)}$$

\*atoms must be conserved!

**reforming** - reaction in which large molecules are formed from smaller ones

• this reaction normally occurs with the help of a catalyst or heat

Ex. 
$$C_5H_{12(1)} + C_5H_{12(1)} \longrightarrow C_{10}H_{22(1)} + H_{2(g)}$$

**combustion** - a reaction between a compound and oxygen to produce the most common oxides.

Ex. 
$$2C_8H_{18(l)} + 25O_2$$
  $\longrightarrow$   $16CO_{2(g)} + 18H_2O_{(g)} + energy$  "burning"

**addition (hydrogenation) reaction** - a reaction in which an unsaturated molecule reacts with hydrogen (diatomic).

Ex. 
$$C_4H_8$$

### **Worksheet - Naming Hydrocarbons**

# Worksheet

Quiz - Tomorrow