

Unless otherwise specified, each question is worth 5 points.

1. Describe the difference between covalent bonding and ionic bonding.

COVALENT: ATOMS SHARE (VALENCE) ELECTRONS

IONIC : ELECTROSTATIC ATTRACTION BETWEEN IONS
(ATOMS THAT HAVE "GAINED" OR "LOST" ELECTRONS)

2. The compounds benzene and methane contain only carbon and hydrogen. The mass ratio of carbon to hydrogen in benzene is 1.00 g C : 0.0833 g H; for methane the ratio is 1.00 g C : 0.333 g H. If the (empirical) formula for benzene is C_1H_1 , what is the formula for methane?

$$C_1H_1 = 1.00g C : 0.0833g H$$

$$C_1H_x = 1.00g C : 0.333g H$$

$$\frac{0.333}{0.0833} = 4.00 \rightarrow \boxed{C_1H_4}$$

3. Complete the following table:

NAME	SYMBOL
a. zinc	<u>Zn</u>
b. <u>ALUMINIUM</u>	Al
c. titanium	<u>Ti</u>
d. <u>BORON</u>	B
e. sulfur	<u>S</u>

