

33

Formaldehyde ( $\text{CH}_2\text{O}$ ) occurs in smoke from forest fires and in automobile exhaust.

a. Calculate the total number of valence electrons in one molecule of formaldehyde. Show your calculations.

Carbon is the central atom in a  $\text{CH}_2\text{O}$  molecule.

b. Draw a Lewis dot structure for formaldehyde.

c. Identify the shape of the formaldehyde molecule predicted by valence-shell electron-pair repulsion (VSEPR) theory. Explain your answer.