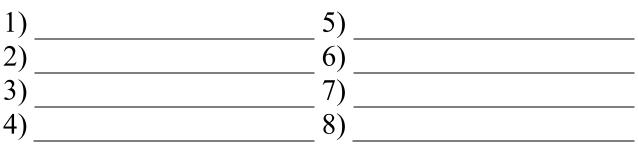
Chemistry 2202 - Formula Worksheet #9

Name: _____

Answers:



For questions 1-4, find the empirical formula for the percent composition data given.

- (1) 19.7% N, 80.3% F
- (2) 25.9% P, 74.1% Cl
- (3) 46.8% Sc, 50.0% O, 3.2% H
- (4) 62.1% Pb, 12.4% P, 25.5% O

For questions 5-7, find the molecular formula given the percent composition and molar mass data given.

- (5) 85.6% C, 14.4% H, M = 84.18 g/mol
- (6) 29.7% Si, 70.3% F, M = 756.72 g/mol
- (7) 32.7% C, 9.2% H, 58.1% O, M = 770.91 g/mol
- (8) An experiment is conducted to find the formula of a hydrate of lead (IV) nitrate.

(Pb(NO₃)₄•XH₂O). The following mass data was collected:

| Mass of empty beaker | 15.65 g |
|--|---------|
| Mass of beaker + $Pb(NO_3)_4 \bullet XH_2O$ (before heating) | 54.61 g |
| Mass of beaker $+ Pb(NO_3)_4$ (after heating) | 45.24 g |

Complete the following table

| Mass of Pb(NO ₃) ₄ •XH ₂ O used | |
|---|--|
| Mass of Pb(NO ₃) ₄ left after heating | |
| Mass of water lost | |

Use the data in the above table to find the formula of the hydrate. Write the answer in the blank for #8 above.