Sample Problem 2

The arsenic in a 1.22 g sample of a pesticide was converted to $\text{AsO}_4^{3-}$ by suitable chemical treatment. It was then titrated using $\text{Ag}^+$ to form $\text{Ag}_3\text{AsO}_4$ as a precipitate.

A What is the oxidation state of As in $\text{AsO}_4^{3-}$?

B If it took 25.0 mL of 0.102 M $\text{Ag}^+$ to reach the equivalence point in this titration, what is the mass percentage of arsenic in the pesticide?