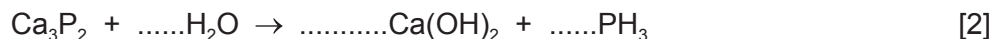


FORMULAE OF COMPOUNDS AND IONS

- 1** (a) Phosphine, PH_3 , is produced by the reaction between water and calcium phosphide, Ca_3P_2 .

Balance the chemical equation for this reaction.



- (b) The phosphonium ion, PH_4^+ , is similar to the ammonium ion.

(i) State the formula of the ammonium ion. [1]

(ii) Suggest the formula of phosphonium iodide. [1]

- (c) Calcium phosphate contains the phosphate ion, PO_4^{3-} .

What is the formula of calcium phosphate?

..... [1]

MARKING SCHEME:

(a)	any two numbers correct (1) equation fully balanced (1) $\text{Ca}_3\text{P}_2 + 6\text{H}_2\text{O} \rightarrow 3\text{Ca}(\text{OH})_2 + 2\text{PH}_3$	2
(b) (i)	NH_4^+	1
(ii)	PH_4I	1
(c)	$\text{Ca}_3(\text{PO}_4)_2$	1

2

Magnesium phosphate contains magnesium ions, Mg^{2+} , and phosphate ions, PO_4^{3-} .

Deduce the formula of magnesium phosphate.

..... [1]

MARKING SCHEME:

500-70	$\text{Mg}_3(\text{PO}_4)_2$	1
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