

**Marks**  
**4**

- Magnesium hydroxide,  $\text{Mg(OH)}_2$ , is used as treatment for excess acidity in the stomach. Its solubility product constant,  $K_{\text{sp}}$ , is  $7.1 \times 10^{-12} \text{ M}^3$ . Calculate the pH of a solution that is in equilibrium with  $\text{Mg(OH)}_2(\text{s})$ .

Answer:

Determine whether 3.0 g of  $\text{Mg(OH)}_2$  will dissolve in 1.0 L of a solution buffered to a pH of 8.00.

YES / NO