

Name

Grade 12 Chemistry

Lime is added to a lake to neutralize the effects of acid rain. The pH value of the lake water rises from 4 to 7. What is the change in concentration of  $H^+$  ions in the lake water?

- A. An increase by a factor of 3
- B. An increase by a factor of 1000
- C. A decrease by a factor of 3
- D. A decrease by a factor of 1000

The pH of a solution is 2. If its pH is increased to 6, how many times greater is the  $[H^+]$  of the original solution?

- A. 3
- B. 4
- C. 1000
- D. 10 000

A solution of  $50\text{ cm}^3$  hydrochloric acid has a pH of 4. What is the final pH if  $450\text{ cm}^3$  of water is added?

- A. 3
- B. 4
- C. 5
- D. 6

$10\text{ cm}^3$  of  $0.01\text{ mol dm}^{-3}$  nitric acid ( $HNO_3$ ) is diluted with  $90\text{ cm}^3$  of water. What is the pH of the resulting solution?

- A. 1
- B. 2
- C. 3
- D. 4