Finding Acid Amount From Leftover Base

Base your answers on the information provided and your knowledge of chemistry. Use the 2025 Chemistry Reference Tables as needed.

A classroom model measures the acid in a rinse sample. It adds a known excess of base. In the model one OH^- ion is used for each H^+ ion supplied by the sample. A second measurement finds how much OH^- remains unused.

Record	**Amount (mol)**
OH^- added	0.020
OH^- left after the test	0.006

1 Which amount represents the OH^- that was used during the test?

(1) 0.006 mol

(2) 0.014 mol

(3) 0.020 mol

(4) 0.026 mol

2 If only the rinse supplies acid, what amount of H^+ did the rinse supply? Explain using the model. [1]

Answer and work

A matched blank contains no rinse sample. In the same type of cup it uses 0.002 mol of OH^-. The model assumes an acidic residue in each cup always uses this much base.

3 Complete the table to show the OH^- used by the cup and by the rinse. Explain how the blank changes the result. [1]

Source	**OH^- used (mol)**
Cup	
Rinse	

Use the blank in your explanation

4 Explain why using the amount of OH^- added, without the leftover and blank readings, would overstate the rinse's acid amount. [1]

Answer and work