

22. A soap solution can be used to measure the hardness of a water sample. Four 100.0 mL water samples were tested. The table below shows the results of the tests on the four samples.

Sample	Boiling point (°C) at atmospheric pressure	Volume (mL) of soap solution required to form a permanent lather	Mass (g) of precipitate formed when excess silver nitrate solution is added
A	101.7	17.2	1.2
B	100.3	2.1	0.9
C	100.6	4.2	0.6
D	102.4	9.3	1.4

Which of the four samples contained water with the greatest hardness?

- (a) Sample A
- (b) Sample B
- (c) Sample C
- (d) Sample D