

15 The table gives the results of chemical tests for some cations and anions.

(ppt = precipitate)

<i>Ion</i>	<i>Add cold</i> 0.1 M HCl	<i>Add</i> 0.1 M KSCN	<i>Add</i> 0.1 M Na ₂ CO ₃	<i>Add</i> 0.1 M AgNO ₃
Ca ²⁺	no change	no change	white ppt	no change
Fe ³⁺	no change	red colour	brown ppt	no change
Ba ²⁺	no change	no change	white ppt	no change
Pb ²⁺	white ppt	no change	white ppt	no change
Cl ⁻	no change	no change	no change	white ppt

When a group of students performed the above tests on an unknown solution they obtained the following results:

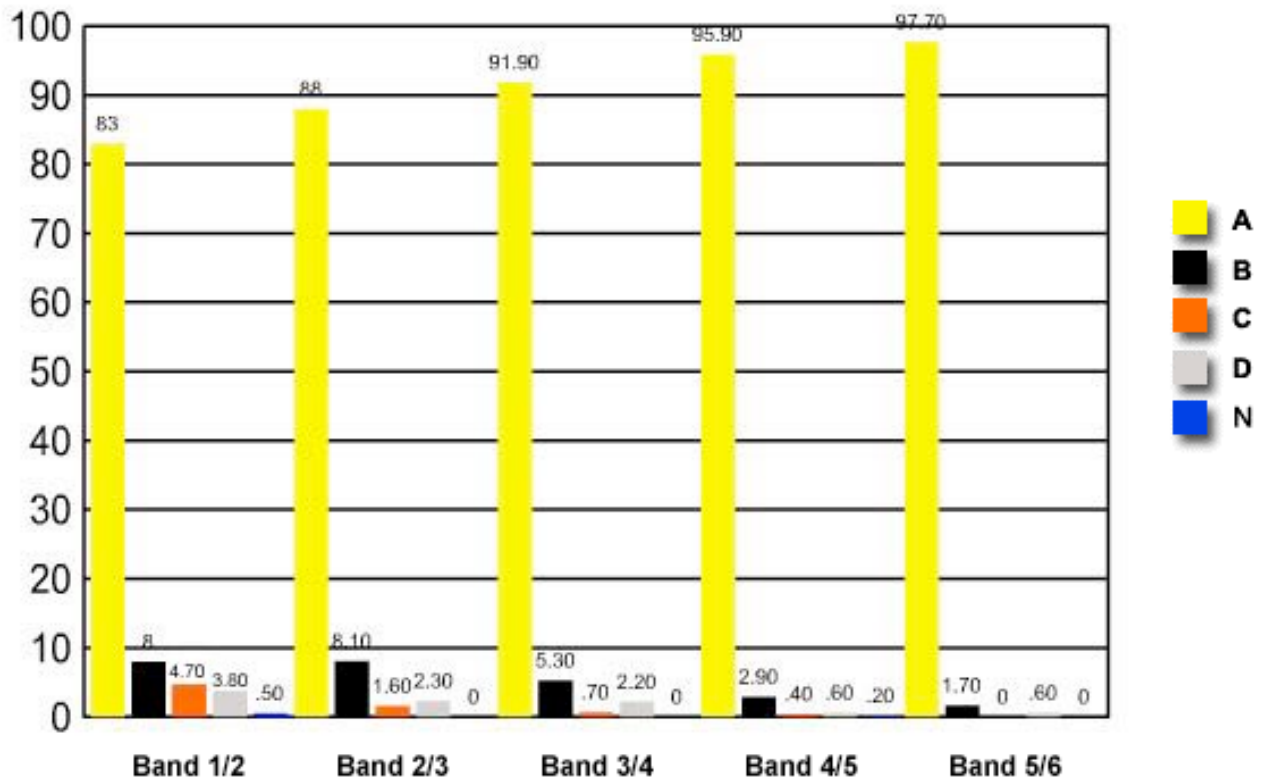
<i>Add cold</i> 0.1 M HCl	<i>Add</i> 0.1 M KSCN	<i>Add</i> 0.1 M Na ₂ CO ₃	<i>Add</i> 0.1 M AgNO ₃
no change	no change	white ppt	white ppt

Which conclusion is consistent with these results?

- ✓ (A) The sample contained both CaCl₂ and BaCl₂.
- (B) The sample contained both CaCl₂ and PbCl₂.
- (C) The sample contained both FeCl₃ and PbCl₂.
- (D) The sample contained both FeCl₃ and BaCl₂.

	Band 1/2	Band 2/3	Band 3/4	Band 4/5	Band 5/6
A	83	88	91.90	95.90	97.70
B	8	8.10	5.30	2.90	1.70
C	4.70	1.60	0.70	0.40	0
D	3.80	2.30	2.20	0.60	0.60
N	0.50	0	0	0.20	0

Question 15 : % answers correct by band range



The table and graph show, for the groups of students whose marks in the examination corresponded to the borderline between two bands, what percentages of each group selected the responses A, B, C and D. N is used to identify: No valid response.
