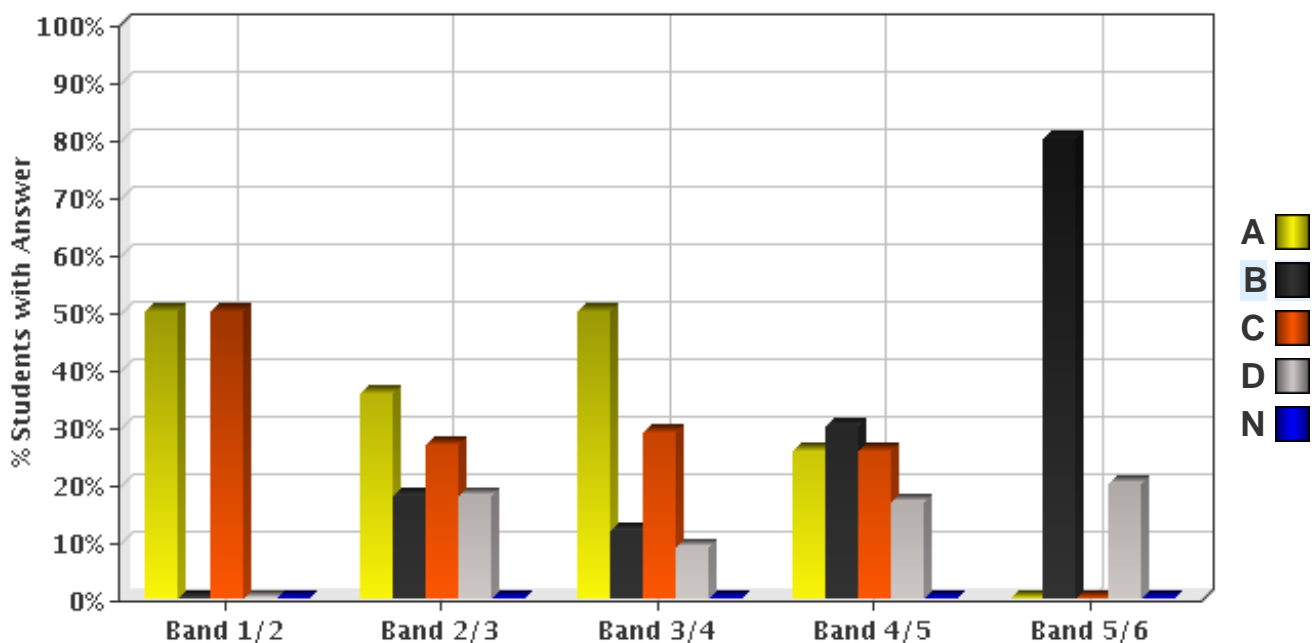# Question 15

A 20-metre length of conductor has a cross-sectional area (CSA) of 2 mm² and a resistance of 2 ohms.

Using the same material, what would be the resistance of a conductor 10 metres in length and having a CSA of 1 mm²?

A ✗ 1 ohm
B ✔ 2 ohms
C ✗ 4 ohms
D ✗ 8 ohms

HSC Statistics on this Question:

	Band 1/2	Band 2/3	Band 3/4	Band 4/5	Band 5/6
A	50%	36%	50%	26%	0%
B	0%	18%	12%	30%	80%
C	50%	27%	29%	26%	0%
D	0%	18%	9%	17%	20%
N	0%	0%	0%	0%	0%

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.

Note that apparent anomalies in the table and graph, such as 0% or 100% of students choosing a particular response, can occur when there are no students (or very few students) who scored the particular examination mark associated with that borderline.