



20 MA 3 John recently did a class test in each of three subjects. The class scores on each test are normally distributed.

The table shows the subjects and John's scores as well as the mean and standard deviation of the class scores on each test.

Relative to the rest of the class, which row of the table below shows John's strongest subject and his weakest subject?

Subject	John's score	Mean	Standard deviation
French	82	70	8
Commerce	80	65	5
Music	74	50	12

	Strongest subject	Weakest subject
A.	Commerce	French
B.	French	Music
C.	Music	French
D.	Commerce	Music

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A

$$\text{Using } z = \frac{x - \mu}{\sigma} :$$

$$\text{French: } z = \frac{82 - 70}{8} = 1.5$$

$$\text{Commerce: } z = \frac{80 - 65}{5} = 3$$

$$\text{Music: } z = \frac{74 - 50}{12} = 2$$

John's strongest subject was Commerce and his weakest was French.

State Mean:
0.74/1

* These solutions have been provided by [projectmaths](http://projectmaths.com.au) and are not supplied or endorsed by NESA.

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