2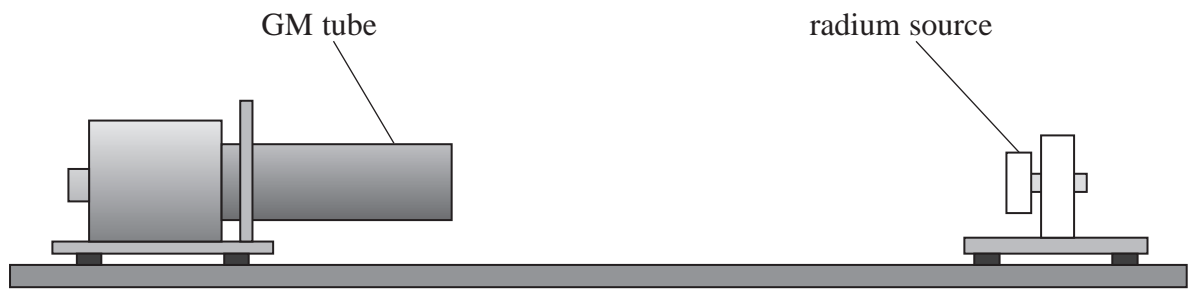 A student used a Geiger-Müller (GM) tube to determine the activity of a radium source. Radium emits α, β, and γ radiation.

He positioned the source 20 cm from the GM tube, as shown, and recorded the count for 1 minute. He repeated the measurement and calculated a mean count.

GM tube   radium source

The student recorded the following results.

Count 1	Count 2	Mean count
183	178	181

(a) Criticise the student's method for determining the count at this position.

(3)

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(b) From his results the student determined that the activity of the source was 3.0 Bq.

Comment on his value for the activity of the source.

(5)

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(Total for Question 2 = 8 marks)