

**MARKS**  
5  
(3, 2)

1. You want to compare the 'size' of several statistics textbooks.
- (a) Give three (3) possible numerical variates that make precise the vague idea of the 'size' of a book; for each variate, give the *units* of measurement and the *measuring instrument* required.
  - (b) Explain briefly which variate is most appropriate for estimating how long it would take you to read the book; for deciding whether it would fit into your bag.

(a) (1)	<div style="border-top: 1px solid black; width: 100%; margin-bottom: 5px;"></div> Variate	<div style="border-top: 1px solid black; width: 100%; margin-bottom: 5px;"></div> Units	<div style="border-top: 1px solid black; width: 100%; margin-bottom: 5px;"></div> Measuring instrument
(a) (2)	<div style="border-top: 1px solid black; width: 100%; margin-bottom: 5px;"></div> Variate	<div style="border-top: 1px solid black; width: 100%; margin-bottom: 5px;"></div> Units	<div style="border-top: 1px solid black; width: 100%; margin-bottom: 5px;"></div> Measuring instrument
(a) (3)	<div style="border-top: 1px solid black; width: 100%; margin-bottom: 5px;"></div> Variate	<div style="border-top: 1px solid black; width: 100%; margin-bottom: 5px;"></div> Units	<div style="border-top: 1px solid black; width: 100%; margin-bottom: 5px;"></div> Measuring instrument

(b) Read:

(b) Fit in bag:

**MARKS**  
4  
(2, 2)

2. All the members of a physical education class are asked to measure their pulse rate as they sit in a classroom. The students use several methods, among which are:
- Method 1:** count heart beats for 6 seconds and multiply by 10 to get beats per minute;
- Method 2:** count heart beats for 30 seconds and multiply by 2 to get beats per minute.
- (a) Which method is likely to yield a more accurate measurement? Explain briefly.
  - (b) One student proposes **Method 3:** starting exactly on a heart beat, measure the time for the next 50 beats and then convert this time into beats per minute. Is Method 3 likely to yield a more or less accurate measurement than 1 and 2? Explain briefly.

(a) (a)

Method preferred

(b) (b)

*More or Less*