



## AI SL QUIZ 1

[ Maximum mark : 5]

[Total time : 8 minutes]

According to the Richter scale, the magnitude  $R$  of an earthquake of intensity  $I$  is given by the formula :

$$R = \log \frac{I}{I_0}$$

where  $I_0$  a certain minimum intensity.

- i) Find the magnitude  $R$  of an earthquake that has an intensity  $I = 10 \times 10^{3,3} I_0$  . [1]
- ii) Find the intensity  $I$  of an earthquake if its magnitude equals  $R = 4,2$  . [1]
- Which is the percentage error if a scientist estimated this earthquake's magnitude to  $R = 4,4$  ? [1]
- iii) How many times greater is the intensity of one earthquake with magnitude  $R = 5$  than the earthquake with magnitude  $R = 3$  ? [1]
- iv) Calculate the bounds for the earthquake with magnitude  $R = 3,3$  to the nearest 1. [1]

[click here to watch the solution](#)