

3 (a) State what is meant by

(i) *oscillations*,

.....  
.....[1]

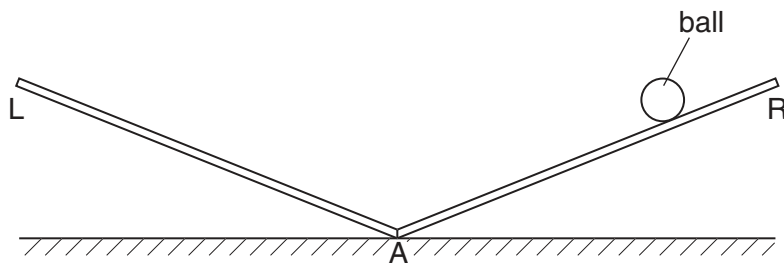
(ii) *free oscillations*,

.....  
.....[1]

(iii) *simple harmonic motion*.

.....  
.....  
.....[2]

(b) Two inclined planes RA and LA each have the same constant gradient. They meet at their lower edges, as shown in Fig. 3.1.



**Fig. 3.1**

A small ball moves from rest down plane RA and then rises up plane LA. It then moves down plane LA and rises up plane RA to its original height. The motion repeats itself.

State and explain whether the motion of the ball is simple harmonic.

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.....  
.....[2]