

- 3 An object oscillates with simple harmonic motion according to the expression:

$$x = 0.160 \sin 15.7t$$

where  $x$  is the displacement in metres and  $t$  is the time in seconds.

On Fig. 3.1, sketch the variations with time of the displacement  $x$ , the velocity  $v$  and the acceleration  $a$  of the object for two complete oscillations, starting at  $t = 0$ .

Include an appropriate scale on the time axes.

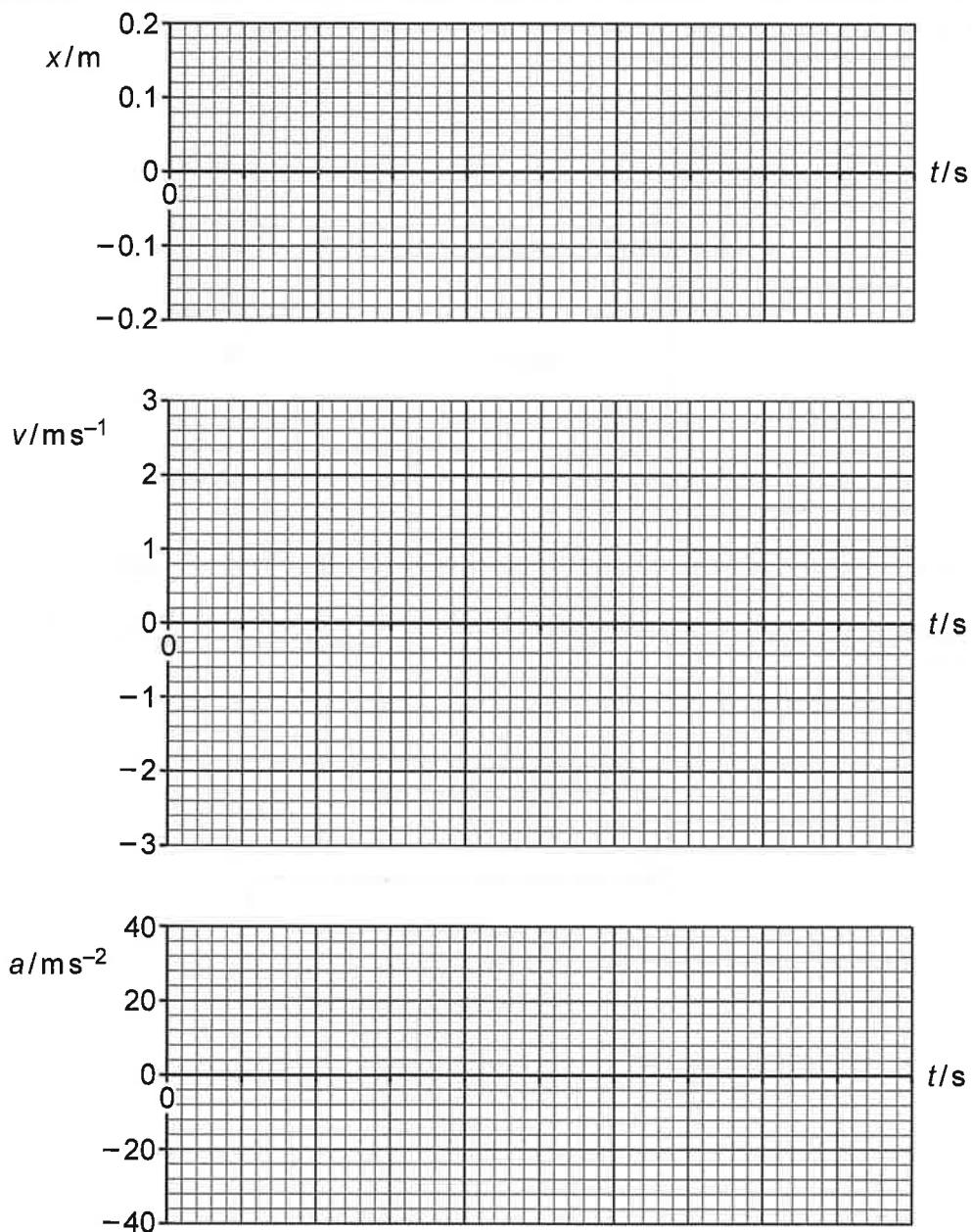


Fig. 3.1