

- 15 A mass of 2.5 kg is undergoing vertical simple harmonic motion on the end of a long spring. Its maximum velocity is 1.2 m s^{-1} and its maximum displacement from its central position is 0.15 m.

Which table correctly gives at the top, centre and bottom of the movement,

- 1 the kinetic energy (k.e.) of the mass
- 2 the change in the gravitational potential energy (g.p.e.) of the mass, compared with the value at the centre
- 3 the change in the elastic potential energy (e.p.e.) of the spring, compared with the value at the centre?

A

	k.e./J	g.p.e./J	e.p.e./J
top	0	+3.7	-1.9
centre	1.8	0	0
bottom	0	-3.7	+5.5

B

	k.e./J	g.p.e./J	e.p.e./J
top	0	+3.7	-1.9
centre	1.8	0	0
bottom	0	-3.7	+1.9

C

	k.e./J	g.p.e./J	e.p.e./J
top	0	+3.7	-0.1
centre	3.6	0	0
bottom	0	-3.7	+7.3

D

	k.e./J	g.p.e./J	e.p.e./J
top	0	+3.7	+0.1
centre	3.6	0	0
bottom	0	-3.7	+3.7