AKASH · PAI

pai. 88

SHOW WORK

9. $d = 2.2m$

$d_1 = 27\,cm$

$= 0.27m$

$d_1 = 2.2 - 0.27$

$= 1.93m$

→ Let v_I be initial velocity of first try [

→ Let v_{II} be the initial velocity of the ~~second~~ second try

Let (a) be the ~~required~~ length of compression for the 'st try

$\therefore \frac{v_I}{v_{II}} = \frac{d_1}{d} \Rightarrow v_{II} = \frac{2.2m}{1.93m}(v_I)$

Let (b) be the compression of the second try

$\Rightarrow \frac{v_I}{v_{II}} = \frac{a}{b} \Rightarrow b = \frac{v_{II}}{v_I} \times a$

$= \frac{2.2}{1.93} \times (0.01)$

$= 0.0125m$

$= 1.25\,cm$

$\therefore$ The spring as to be compressed 1.25 cm to hit the center of the box