Date

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Quiz FFKG

1. Speed before touching.

$Ep = Ek$

$mgh = \frac{1}{2}mv^2$

$v^2 = 2gh$

$v = \sqrt{2gh}$

2. Find f saat robot dan shock absorber bergabung.

$\Sigma F = ma$

$-kx = ma$

$a = \frac{-kx}{m}$

$A\omega^2 \cos(\omega t + \phi_0) * = \frac{k}{m}(A\cos(\omega t + \phi_0)$

$\omega^2(A\cos(\omega t + \phi_0)) = \frac{k}{m}(A\cos(\omega t + \phi_0))$

$\omega^2 = \frac{k}{m}$

$(2\pi f)^2 = k/m$

$f^2 = \frac{1}{(2\pi)^2} k/m$

$f = \frac{1}{2\pi}\sqrt{\frac{k}{m}}$

3. Max compression

$\Delta Ep = \frac{1}{2}kx^2$

$mg.\Delta h = \frac{1}{2}kx^2$

$mg.h = \frac{1}{2}kx^2$

$x^2 = \frac{2mgh}{k}$

$x = \sqrt{\frac{2mgh}{k}}$

karena $\Delta h = h_i - h_f$

$= h_i - 0$

$= h_i$

$\Delta h = h$

KKY