Latihan 7

* Bagian 1

1) dik : l = 60 cm = 0,6 m
V = 340 m/s
dit : F_1 = ?
F_3 = ?
F_5 = ?

* $F_0 = \frac{V}{4l} = \frac{340}{4 \cdot 0,6} = 141,667$ Hz

$F_1 = 3F_0$
$= 3 \cdot 141,667$
$= 425,001$ Hz

$F_3 = 7F_0$
$= 7 \cdot 141,667$
$= 991,669$ Hz

$F_5 = 11 \cdot F_0$
$= 11 \times 141,667$
$= 1.558,337$ Hz

Bagian 2

1) m = 50 gram = 0,05 kg
A = 10 cm = 0,1 m
T = 0,2 detik
* Y = 1/2 A
= 1/2 (0,1) = 0,05 m

$\omega = \frac{2\pi}{T} = \frac{2\pi}{0,2} = 10\pi$ rad/s

estudee

Sistem Operasi

$F = -m a_y$

$= -m \omega^2 y$

$= -(0{,}05)(10\pi)^2 (0{,}05)$

$= -0{,}25\pi^2$

$= -0{,}25(3{,}14)^2$

$= -0{,}25(9{,}8596)$

$= -2{,}46$

$= -2{,}5$

$F = 2{,}5\ N$ //

2) $m = 250\ gram = 0{,}25\ kg$

$K = 100\ N/m$

$T = ?$

$* T = 2\pi\sqrt{\frac{m}{K}}$

$= 2\pi\sqrt{\frac{0{,}25}{100}}$

$= 2\pi \times \frac{1}{20} = \pi/10 = 0{,}314\ s$ //

3) $L = 64\ cm = 0{,}64\ m$

$m = 200\ gram = 0{,}2\ kg$

$g = 10\ m/s^2$

$T = ?$

$* T = 2\pi\sqrt{\frac{L}{g}}$

$= 2\pi\sqrt{\frac{0{,}64}{10}}$

$= 2\pi \times 0{,}8 \times \frac{1}{10}\sqrt{10}$

$= 0{,}16\pi\sqrt{10}\ s$ //