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1. _____:
 $H/(3^{1/2}V)$.

_____:

_____ , _____ 60° .
 $2V\cos 60^\circ = V$, . . . , _____ .
 (_____) ,
 (_____) .
 $2V\sin 60^\circ = 3^{1/2}V$, _____ H
 $H/(3^{1/2}V)$.

2. _____: _____ τ _____ $V_0/(2a_0)$.

_____:

_____ t :
 $x_1 = V_0t$, _____ $x_2 = 2V_0(t - \tau) - (a_0/2)(t - \tau)^2$.
 $x_2 = x_1$, _____ , _____ :
 _____ , _____ t , _____ :
 (_____ τ):
 $2V_0(t - \tau) - (a_0/2)(t - \tau)^2 = V_0t$.
 _____ $(t - \tau)$:
 $a_0(t - \tau)^2 - 2V_0(t - \tau) + 2V_0\tau = 0$.
 $4V_0^2 - 8a_0V_0\tau$ _____ , _____
 _____ , _____ $2-$ _____ , _____ $1-$, _____
 _____ τ _____ , _____ $2-$ _____
 _____ $1-$, _____ : $4V_0^2 - 8a_0V_0\tau = 0$,
 $\tau = V_0/(2a_0)$.

_____ , _____ τ _____ V_{1x} _____ V_{2x} _____
 $= 2V_0 - a_0(t - \tau)$ _____ $V_{1x} = V_{2x}$ _____ $V_{1x} = V_0$ _____ V_{2x}
 $t - \tau = V_0/a_0$.
 $t - \tau$, _____
 τ .

3. _____: _____ 850 / 3 .

_____:

, () ,
 , ()
 , ()
 (, , 3/4) . 1/4
 , 3

4

$$\rho V = \rho V/4 + \rho (3V/4),$$

$$\rho = \rho/4 + (3/4)\rho = 850 / ^3.$$

4. _____: $2R$.
 $3R$. $(3/2)R$.

_____:

$$U/(3R) \quad U/(5R) \quad U,$$

$$(2/25)U^2/R \quad 2R \quad (2/9)U^2/R$$

$$2R \quad 2R$$

$$3R$$

$$2R \quad R_x,$$

$$: 2RU^2/(2R + R_\Sigma)^2, \quad R_\Sigma = 3RR_x/(3R + R_x).$$

$2R,$
 $2R$
 $2RU^2/(2R + R_\Sigma)^2 > (2/9)U^2/R,$
 $R_x < (3/2)R.$

: , , , .