

11

1. _____:

$$2mgtg\alpha.$$

_____:

$$F.$$

$$a = F/(2m),$$

2-

$$macos\alpha = Fcos\alpha - mgsin\alpha$$

a,

$$F.$$

2. _____:

$$MV^2/4.$$

8

_____:

m

$$mV = (M + m)V/2.$$

$$m = M.$$

Q

:

$$Q = mV^2/2 - (M + m)(V/2)^2/2.$$

$$m = M,$$

$$Q = MV^2/4.$$

Δt

V/2.

Δt

$\Delta m_1,$

$\Delta v_1.$

$\Delta v_1,$

$$: \Delta m_1 V = (M + \Delta m_1) \Delta v_1.$$

$$\Delta v_1 = \Delta m_1 V / (M +$$

$\Delta m_1)$

Δm_1

M,

$$\Delta v_1 = \Delta m_1 V / M.$$

$$a_1 = \Delta v_1 / \Delta t,$$

$$a_1 = (\Delta m_1 / \Delta t) V / M.$$

V/2,

Δt

$\Delta m_2,$

$\Delta v_2.$

$\Delta v_2,$

$$\Delta m_2 V + 2MV/2 = (2M + \Delta m_2)(V/2 + \Delta v_2).$$

$$\Delta v_2 = \Delta m_2 V / (4M + 2\Delta m_2)$$

$2\Delta m_2$

$4M,$

$$\Delta v_2 = \Delta m_2 V / (4M).$$

$$a_2 = (\Delta m_2 / \Delta t) V / (4M).$$

:

$$a_2/a_1 = (1/4)(\Delta m_2/\Delta m_1).$$

V

V/2

$$V/2,$$

$$\Delta m_2/\Delta m_1 = 1/2.$$

$$a_2/a_1 = 1/8.$$

3. _____:

$$(1/4) E^2$$

$$(2/3) E^2.$$

$$(1/12) E^2.$$

_____:

$$A = qE.$$

A

q

$$E/3 -$$

(

$$2C)$$

$$(2/3)CE$$

$$(2/3)CE.$$

$$A = (2/3) E^2.$$

$$: q =$$

$$Q_\Sigma,$$

A

$$W$$

$$: A = W + Q_\Sigma.$$

$$E/3 (\quad),$$

$$2E/3:$$

$$W = 2 (E/3)^2/2 + (2E/3)^2/2 = (1/3) E^2.$$

$$Q_\Sigma = A - W = (1/3) E^2.$$

$$E/2.$$

$$CE/2,$$

$$E/2,$$

$$(1/2) E^2.$$

$$(1/4) E^2.$$

$$Q_1 = (1/2) E^2 - (1/4) E^2 = (1/4) E^2.$$

Q_2

$Q_\Sigma \quad Q_1:$

$$Q_2 = Q_\Sigma - Q_1 = (1/3) E^2 - (1/4) E^2 = (1/12) E^2.$$

4. _____:

$\omega A.$

_____:

$$\omega A \sin(\omega t + \pi/3),$$

$$V_{1x} = -\omega A \sin \omega t,$$

$$- V_{2x} = -$$

:

$$V_{2x} - V_{1x} = \omega A [\sin \omega t - \sin(\omega t + \pi/3)].$$

$$V_{2x} - V_{1x} = -2\omega A \sin(\pi/6) \sin(\omega t + \pi/6).$$

$$2\omega A \sin(\pi/6) \quad \omega A.$$

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I-2

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