

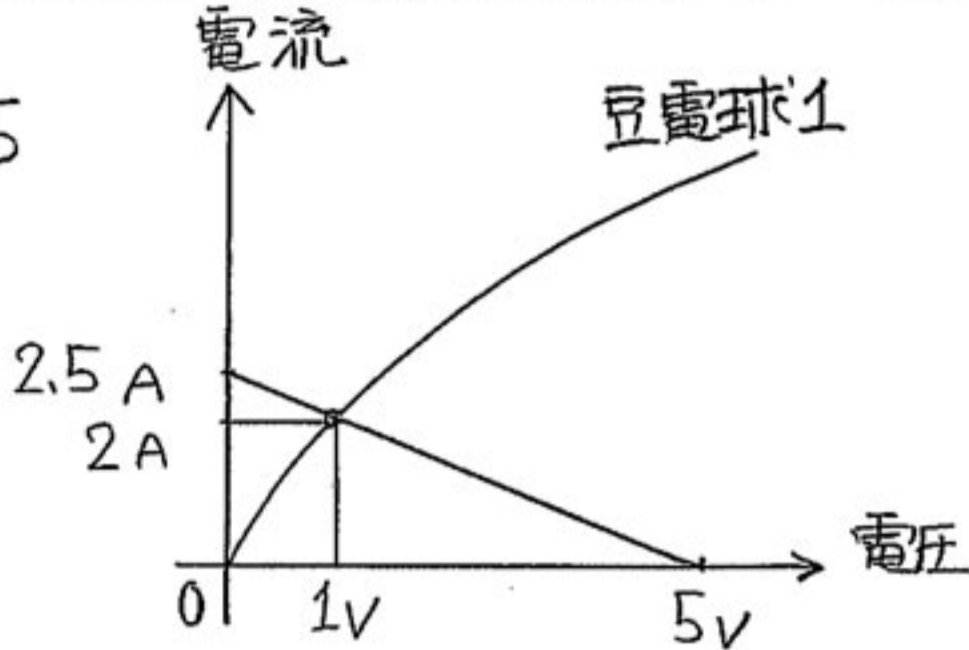
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問1	$\frac{\sqrt{3}}{2}mg$	問2	$l_0 - \frac{mg}{2k}$
問3	$l_0 + \frac{mg}{2k}$	問4	$\alpha = \frac{g}{4} - \frac{k}{2m}(l - l_0)$
問5	$T = \frac{3}{4}mg + \frac{k}{2}(l - l_0)$ $l = l_1$ のとき $T = \frac{1}{2}mg$ $l = l_2$ のとき $T = mg$		
問6	$\frac{3(mg)^2}{4k}$	問7	$g\sqrt{\frac{m}{2k}}$

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問1.	$\sqrt{\frac{g}{r}}$	問2	$\frac{a}{2}\omega$
問3	$\frac{\omega l}{2\pi}$	問4	$\frac{2\pi}{\sqrt{\cos\theta}\omega}$
問5	$\frac{l\omega^2}{2\pi^2g}$	問6	16倍

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問1 (I)	問2 $I_1 + I_2 = I_3$
問3 (経路1) $E_1 = V_3 + R_1 I_1$	(経路2) $E_2 = V_3 + R_2 I_2$
問4 $I_3 = 2.5 A - \frac{V_3}{2\Omega}$	
問5	 <p style="text-align: right;">$I_3 = 2 A$ $V_3 = 1 V$</p>

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問1 $E_1 = k_0 \frac{Q}{r^2}$	$V_1 = k_0 \frac{Q}{r}$												
問2 $E_2 = k_0 \frac{Q}{r^2}$	$V_2 = k_0 \frac{Q}{r}$ $V_0 = k_0 \frac{Q}{a}$												
問3 $V_0^{\nabla} = k_0 \frac{Q_1 + Q_2 + Q_3 + \dots + Q_n}{a}$	問4 $V_R^{\nabla} = V_R + k_0 \frac{Q_0}{r}$												
問5	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">ア. (λ)</td> <td style="width: 33%;">イ. (g)</td> <td style="width: 33%;">ウ. (f)</td> </tr> <tr> <td>エ. (c)</td> <td>オ. (c)</td> <td>カ. (h)</td> </tr> <tr> <td>キ. (e)</td> <td>ク. (d)</td> <td>ケ. (k)</td> </tr> <tr> <td>コ. $V_A = k_0 \frac{Q}{r}$</td> <td></td> <td></td> </tr> </table>	ア. (λ)	イ. (g)	ウ. (f)	エ. (c)	オ. (c)	カ. (h)	キ. (e)	ク. (d)	ケ. (k)	コ. $V_A = k_0 \frac{Q}{r}$		
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キ. (e)	ク. (d)	ケ. (k)											
コ. $V_A = k_0 \frac{Q}{r}$													

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問1	$2mV_x$	問2	$\frac{v_x \lambda}{2l}$
問3	$\frac{m v_x^2}{l}$	問4	$n N_A \frac{m \overline{v_x^2}}{l}$
問5	$\frac{n N_A m}{3}$	問6	$\frac{3R}{2N_A}$
問7	$U = n N_A \cdot \frac{1}{2} m \overline{v^2}$ $= n N_A \times \frac{3R}{2N_A} T = \frac{3}{2} nRT \text{ とわかる}$		

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問1	(1) $2m v_x$	(2) $\frac{v_x \lambda}{2l}$
	(3) $\frac{m v_x^2}{l}$	(4) $n N_A \frac{m \overline{v_x^2}}{l}$
	(5) $\frac{n N_A m}{3}$	(6) $\frac{3R}{2N_A}$
	(7) $U = n N_A \cdot \frac{1}{2} m \overline{v^2}$ $= n N_A \cdot \frac{3R}{2N_A} T = \frac{3}{2} n R T \quad \text{と} \quad \text{お} \quad \text{お}$	
問2	(1) $-(v_x - 2v_p)$	(2) $-2m v_x$
	(3) $\frac{v_x}{2l v_p} \Delta x$	(4) $-\frac{m v_x^2}{l} \Delta x$
	(5) $-\frac{n N_A m \overline{v_x^2}}{l} \Delta x$	(6) $-\frac{2\Delta V}{3V} T$

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問1	(1) $\frac{n_1}{n_2} \lambda$	(2) $2d = (m + \frac{1}{2}) \frac{n_1}{n_2} \lambda$
	(3) $d_{\min} = \frac{n_1}{2n_2} \lambda$	
問2	(1) $n_1 \sin \theta_1 = n_2 \sin \theta_2$	(2) $h = \frac{\lambda}{4 \cos \theta_1}$

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問1	(1) $\frac{n_1}{n_2} \lambda$	(2) $2d = (m + \frac{1}{2}) \frac{n_1}{n_2} \lambda$
	(3) $d_{\min} = \frac{n_1}{2n_2} \lambda$	
問2	(1) $n_1 \sin \theta_1 = n_2 \sin \theta_2$	(2) $h = \frac{\lambda}{4 \cos \theta_1}$
問3	(1) $l \tan \theta_3 = l \tan \theta_1 + d \tan \theta_2$	
	(2) $2 \left(\frac{l}{\cos \theta_1} + \frac{d \sin \theta_1}{\sin \theta_2 \cos \theta_2} - \frac{l}{\cos \theta_3} \right) = (m + \frac{1}{2}) \lambda$	
	(3) $\alpha = \frac{d}{l} \tan \theta_2 \cos^2 \theta_1$	
	(4) $2d \cos \theta_2 = (m + \frac{1}{2}) \frac{n_1}{n_2} \lambda$	