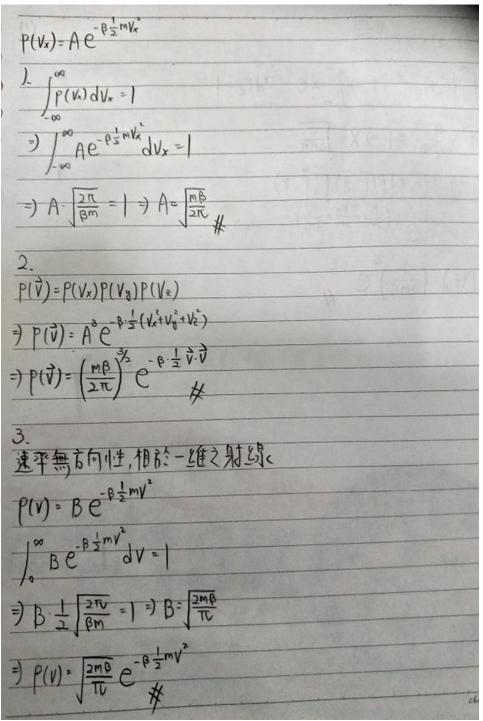
HW4

第九組

謝愷昀、鄭琮寶、石苯源

第一題 (Problem 5.6)



第二題 (Problem 5.7)

回 Ta=TB 時 建平便了, 此時 En=EB

(a)

$$P(E_A) = \delta(E_A - \frac{E}{2})$$
(b)

 $\langle E_A \rangle = \int_0^E E_A \delta(E_A - \frac{E}{2}) dE_A = \frac{E}{2}$
(c)

When $E_A = \frac{E}{2}$ have maximum

第三題 (Problem 5.8)

$$P(\vec{p}, z) = \chi e^{-\beta \frac{|\vec{p}|^2}{2m}}$$

$$= \chi \cdot \frac{|\vec{p}|^2}{|\vec{p}|^2} = |\vec{p}|^2 \times e^{-\beta \frac{|\vec{p}|^2}{2m}} |\vec{p}|^2 = |\vec{p}|^2 \times e^{-\beta \frac{|\vec{p}|^2}{2m}} |\vec{p}$$

第四題 (Problem 5.9)

第五題 (Problem 7.1)

$$\frac{7-1}{-3} \frac{1}{3} \frac$$

第六題 (Problem 7.2)

第七題 (Problem 8.1)

8.1

(a)
$$\frac{dS}{dE} = \frac{3}{2} \frac{kBN}{E}$$

(b) $\frac{dS}{dU_X} = \frac{1}{2} \frac{kBN_X}{\sqrt{V_X} \sqrt{U_X}}$

(c) $\frac{3}{2} \frac{kBN}{E} = \frac{1}{2} \frac{kBN_X}{\sqrt{V_X} \sqrt{U_X}}$

(d) $\frac{3}{2} \frac{kBN}{E} = \frac{1}{2} \frac{kBN_X}{\sqrt{V_X} \sqrt{U_X}}$

(e) $\frac{3}{2} \frac{kBN}{E} = \frac{1}{2} \frac{kBN_X}{\sqrt{V_X} \sqrt{U_X}}$

(f) $\frac{3}{2} \frac{kBN_X}{\sqrt{V_X} \sqrt{V_X}} = \frac{1}{2} \frac{kBN_X}{\sqrt{V_X} \sqrt{V_X}}$

(g) $\frac{1}{2} \frac{kBN_X}{\sqrt{V_X} \sqrt{V_X}} = \frac{1}{2} \frac{kBN_X}{\sqrt{V_X} \sqrt{V_X}}$

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