Template workbook / 검토 워크북

Prepared for **연구 검토자 / Reviewer**

A01. Normalized Gaussian mixture with nested exponent and radical

검토 대상 / Expression

$$p\left(x\right)=\sum_{k=1}^{K}\frac{\pi_{k}\,e^{-\frac{\left(x-\mu_{k}\right)^{2}}{2\,\sigma_{k}^{2}}}}{\sqrt{2\,\pi\,\sigma_{k}^{2}}}$$

Check	Result
역할·차원	*Verify every matrix dimension and grouped script.*

Workbook reference

- 수식을 클릭하여 편집합니다.
- Save, reopen, and inspect the table.

A02. Full 3 by 3 Hessian with mixed partial derivatives

검토 대상 / Expression

$$H=\begin{bmatrix}\frac{\partial^2 f}{\partial x^2} & \frac{\partial^2 f}{\partial x\,\partial y} & \frac{\partial^2 f}{\partial x\,\partial z}\\ \frac{\partial^2 f}{\partial y\,\partial x} & \frac{\partial^2 f}{\partial y^2} & \frac{\partial^2 f}{\partial y\,\partial z}\\ \frac{\partial^2 f}{\partial z\,\partial x} & \frac{\partial^2 f}{\partial z\,\partial y} & \frac{\partial^2 f}{\partial z^2}\end{bmatrix}$$

Check	Result
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A03. Nested block matrix and Schur complement

검토 대상 / Expression

$$M=\begin{bmatrix}\begin{bmatrix}a & b\\ c & d\end{bmatrix} & \begin{bmatrix}1\\ \lambda\end{bmatrix}\\ \begin{bmatrix}\mu & 0\end{bmatrix} & \frac{1}{\delta+\sqrt{1+\lambda^2}}\end{bmatrix};\ S=D-C\,A^{-1}B$$

Check	Result
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A04. Three-branch robust loss with radicals and a rational transition

검토 대상 / Expression

$$\rho_{\delta}(x)=\begin{cases}\dfrac{x^{2}}{2} & |x|\le\delta \\ \delta\left(\sqrt{x^{2}}-\dfrac{\delta}{2}\right) & \delta<|x|\le 2\,\delta \\ \dfrac{2\,\delta\,x^{2}}{\delta+\sqrt{x^{2}+\delta^{2}}} & |x|>2\,\delta\end{cases}$$

Check	Result
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A05. Fourier-Galerkin integral with an embedded infinite sum

검토 대상 / Expression

$$\widehat{u}(\omega)=\frac{1}{\sqrt{2\,\pi}}\int_{-\infty}^{\infty}\left(\sum_{n=0}^{\infty}\frac{a_{n}\,x^{n}}{n\,!}\right)e^{-i\,\omega\,x}\,d\,x$$

Check	Result
역할·차원	*Verify every matrix dimension and grouped script.*

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A06. Six-level continued fraction with indexed radicals

검토 대상 / Expression

$$F=\cfrac{1}{x+\cfrac{1}{\sqrt{1+x^{2}}+\cfrac{2}{x+\cfrac{3}{\sqrt[3]{1+x}+\cfrac{4}{x+\cfrac{5}{1+x^{2}}}}}}}$$

Check	Result
역할·차원	*Verify every matrix dimension and grouped script.*

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A07. Euler-Lagrange derivative with a normalized gradient

검토 대상 / Expression

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$$\frac{\partial L}{\partial u}-\sum_{j=1}^{d}\frac{\partial}{\partial x_j}\left[\frac{\partial u/\partial x_j}{\sqrt{\varepsilon+\sum_{k=1}^{d}\left(\frac{\partial u}{\partial x_k}\right)^2}}\right]=0$$

Check	Result
역할·차원	*Verify every matrix dimension and grouped script.*

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A08. Tensor contraction with two sums and indexed rational factors

검토 대상 / Expression

$$T^{ij}_{kl}=\sum_{m=1}^{N}\sum_{n=1}^{N}\frac{A^{i}_{m}B^{j}_{n}C^{mn}_{kl}}{1+\sqrt{\lambda_m\lambda_n}}$$

Check	Result
역할·차원	*Verify every matrix dimension and grouped script.*

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A09. Determinant of a regularized rational 3 by 3 matrix

검토 대상 / Expression

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$$D=\begin{vmatrix} \lambda+\frac{1}{1+x^{2}} & \frac{x}{\sqrt{1+y^{2}}} & 0 \\ \frac{x}{\sqrt{1+y^{2}}} & \lambda+\sqrt{1+y^{2}} & \frac{1}{1+z} \\ 0 & \frac{1}{1+z} & \lambda+z^{2} \end{vmatrix}$$

Check	Result
역할·차원	*Verify every matrix dimension and grouped script.*

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A10. Generalized quadratic quotient with matrix and transpose

검토 대상 / Expression

$$R=\frac{\left(x_{1},x_{2}\right)\begin{bmatrix} a & \frac{b}{1+c^{2}} \\ \frac{b}{1+c^{2}} & d \end{bmatrix}\left(x_{1},x_{2}\right)^{T}}{\sqrt{\left(x_{1}^{2}+x_{2}^{2}\right)\left(1+\delta^{2}\right)}}$$

Check	Result
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Numerical methods workbook / 수식 검토 기록

Workbook reference

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