

Markdown Math Macro definition

The latex command source

Click to unfold latex macro definition

Latex command definition source

```
\newcommand{\bm}[1]{\boldsymbol{#1}}

\newcommand{\sign}{\operatorname{sign}} % \DeclareMathOperator{\sign}{sign}
\newcommand{\Tr}{\operatorname{Tr}} % \DeclareMathOperator{\Tr}{Tr}


\newcommand{\E}{\mathbb{E}}
\newcommand{\KL}{D_{\mathrm{KL}}}
\newcommand{\NormalDist}{\mathcal{N}}
\newcommand{\diag}{\mathrm{diag}}


\newcommand{\Ls}{\mathcal{L}}
\newcommand{\R}{\mathbb{R}}
\newcommand{\emp}{\tilde{p}}
\newcommand{\lr}{\alpha}
\newcommand{\reg}{\lambda}
\newcommand{\rect}{\mathrm{rectifier}}
\newcommand{\softmax}{\mathrm{softmax}}
\newcommand{\sigmoid}{\sigma}
\newcommand{\softplus}{\zeta}
\newcommand{\Var}{\mathrm{Var}}
\newcommand{\standarderror}{\mathrm{SE}}
\newcommand{\Cov}{\mathrm{Cov}}
```

```

\newcommand{\tran}{\textsuperscript{top}}
\newcommand{\inv}{\textsuperscript{-1}}
\newcommand{\diff}{\mathrm{d}}

```

% % Vectors

```

\newcommand{\vzero}{\bm{0}}
\newcommand{\vone}{\bm{1}}
\newcommand{\vmu}{\bm{\mu}}
\newcommand{\vnu}{\bm{\nu}}
\newcommand{\vtheta}{\bm{\theta}}

```

```

\renewcommand{\va}{\bm{a}}
\renewcommand{\vb}{\bm{b}}
% \newcommand{\va}{\bm{a}}
% \newcommand{\vb}{\bm{b}}
\newcommand{\vc}{\bm{c}}
\newcommand{\vd}{\bm{d}}
\newcommand{\ve}{\bm{e}}
\newcommand{\vf}{\bm{f}}
\newcommand{\vg}{\bm{g}}
\newcommand{\vh}{\bm{h}}
\newcommand{\vi}{\bm{i}}
\newcommand{\vj}{\bm{j}}
\newcommand{\vk}{\bm{k}}
\newcommand{\vl}{\bm{l}}
\newcommand{\vm}{\bm{m}}
\newcommand{\vn}{\bm{n}}
\newcommand{\vo}{\bm{o}}
\newcommand{\vp}{\bm{p}}
\newcommand{\vq}{\bm{q}}
\newcommand{\vr}{\bm{r}}
\newcommand{\vs}{\bm{s}}
\newcommand{\vt}{\bm{t}}
\newcommand{\vu}{\bm{u}}
\newcommand{\vv}{\bm{v}}
\newcommand{\vw}{\bm{w}}
\newcommand{\vx}{\bm{x}}
\newcommand{\vy}{\bm{y}}

```

```
\newcommand{\vz}{\bm{z}}
```

```
% % Random variables
```

```
% % old latex command \rm is overwritten, now should use ``\textrm`` or ``\mathrm``
```

```
% \newcommand{\reta}{\{\textnormal{$\eta$}\}}
```

```
\newcommand{\ra}{\{\textnormal{a}\}}
```

```
\newcommand{\rb}{\{\textnormal{b}\}}
```

```
\newcommand{\rc}{\{\textnormal{c}\}}
```

```
\newcommand{\rd}{\{\textnormal{d}\}}
```

```
\newcommand{\re}{\{\textnormal{e}\}}
```

```
\newcommand{\rf}{\{\textnormal{f}\}}
```

```
\newcommand{\rg}{\{\textnormal{g}\}}
```

```
\newcommand{\rh}{\{\textnormal{h}\}}
```

```
\newcommand{\ri}{\{\textnormal{i}\}}
```

```
\newcommand{\rj}{\{\textnormal{j}\}}
```

```
\newcommand{\rk}{\{\textnormal{k}\}}
```

```
\newcommand{\rl}{\{\textnormal{l}\}}
```

```
\renewcommand{\rm}{\{\textnormal{m}\}} % note \rm is old command
```

```
\newcommand{\rn}{\{\textnormal{n}\}}
```

```
\newcommand{\ro}{\{\textnormal{o}\}}
```

```
\newcommand{\rp}{\{\textnormal{p}\}}
```

```
\newcommand{\rq}{\{\textnormal{q}\}}
```

```
\newcommand{\rr}{\{\textnormal{r}\}}
```

```
\newcommand{\rs}{\{\textnormal{s}\}}
```

```
\newcommand{\rt}{\{\textnormal{t}\}}
```

```
\newcommand{\ru}{\{\textnormal{u}\}}
```

```
\newcommand{\rv}{\{\textnormal{v}\}}
```

```
\newcommand{\rw}{\{\textnormal{w}\}}
```

```
\newcommand{\rx}{\{\textnormal{x}\}}
```

```
\newcommand{\ry}{\{\textnormal{y}\}}
```

```
\newcommand{\rz}{\{\textnormal{z}\}}
```

```
% % Random vectors % TODO, greek vector valued random variables and vectors are same
```

```
\newcommand{\rvepsilon}{\bm{\epsilon}}
```

```
\newcommand{\rvtheta}{\bm{\theta}}
```

```
\newcommand{\rva}{\mathbf{a}}
```

```
\newcommand{\rvb}{\mathbf{b}}
```

```

\newcommand{\rvc}{\mathbf{c}}
\newcommand{\rvd}{\mathbf{d}}
\newcommand{\rve}{\mathbf{e}}
\newcommand{\rvf}{\mathbf{f}}
\newcommand{\rvg}{\mathbf{g}}
\newcommand{\rvh}{\mathbf{h}}
\newcommand{\rvi}{\mathbf{i}}
\newcommand{\rvj}{\mathbf{j}}
\newcommand{\rvk}{\mathbf{k}}
\newcommand{\rvl}{\mathbf{l}}
\newcommand{\rvm}{\mathbf{m}}
\newcommand{\rvn}{\mathbf{n}}
\newcommand{\rvo}{\mathbf{o}}
\newcommand{\rvp}{\mathbf{p}}
\newcommand{\rvq}{\mathbf{q}}
\newcommand{\rvr}{\mathbf{r}}
\newcommand{\rvs}{\mathbf{s}}
\newcommand{\rvt}{\mathbf{t}}
\newcommand{\rvu}{\mathbf{u}}
\newcommand{\rvv}{\mathbf{v}}
\newcommand{\rvw}{\mathbf{w}}
\newcommand{\rvx}{\mathbf{x}}
\newcommand{\rvy}{\mathbf{y}}
\newcommand{\rvz}{\mathbf{z}}

```

% % Elements of random vectors

```

\newcommand{\erva}{\{\textnormal{a}\}}
\newcommand{\ervb}{\{\textnormal{b}\}}
\newcommand{\ervc}{\{\textnormal{c}\}}
\newcommand{\ervd}{\{\textnormal{d}\}}
\newcommand{\erve}{\{\textnormal{e}\}}
\newcommand{\ervf}{\{\textnormal{f}\}}
\newcommand{\ervg}{\{\textnormal{g}\}}
\newcommand{\ervh}{\{\textnormal{h}\}}
\newcommand{\ervi}{\{\textnormal{i}\}}
\newcommand{\ervj}{\{\textnormal{j}\}}
\newcommand{\ervk}{\{\textnormal{k}\}}
\newcommand{\ervl}{\{\textnormal{l}\}}

```

```

\newcommand{\ervm}{\textnormal{m}}
\newcommand{\ervn}{\textnormal{n}}
\newcommand{\ervo}{\textnormal{o}}
\newcommand{\ervp}{\textnormal{p}}
\newcommand{\ervq}{\textnormal{q}}
\newcommand{\ervr}{\textnormal{r}}
\newcommand{\ervs}{\textnormal{s}}
\newcommand{\ervt}{\textnormal{t}}
\newcommand{\ervu}{\textnormal{u}}
\newcommand{\ervv}{\textnormal{v}}
\newcommand{\ervw}{\textnormal{w}}
\newcommand{\ervx}{\textnormal{x}}
\newcommand{\ervy}{\textnormal{y}}
\newcommand{\ervz}{\textnormal{z}}

```

% % Random matrices

```

\newcommand{\rmA}{\mathbf{A}}
\newcommand{\rmB}{\mathbf{B}}
\newcommand{\rmC}{\mathbf{C}}
\newcommand{\rmD}{\mathbf{D}}
\newcommand{\rmE}{\mathbf{E}}
\newcommand{\rmF}{\mathbf{F}}
\newcommand{\rmG}{\mathbf{G}}
\newcommand{\rmH}{\mathbf{H}}
\newcommand{\rmI}{\mathbf{I}}
\newcommand{\rmJ}{\mathbf{J}}
\newcommand{\rmK}{\mathbf{K}}
\newcommand{\rmL}{\mathbf{L}}
\newcommand{\rmM}{\mathbf{M}}
\newcommand{\rmN}{\mathbf{N}}
\newcommand{\rmO}{\mathbf{O}}
\newcommand{\rmP}{\mathbf{P}}
\newcommand{\rmQ}{\mathbf{Q}}
\newcommand{\rmR}{\mathbf{R}}
\newcommand{\rmS}{\mathbf{S}}
\newcommand{\rmT}{\mathbf{T}}
\newcommand{\rmU}{\mathbf{U}}
\newcommand{\rmV}{\mathbf{V}}

```

```

\newcommand{\rmW}{\{\mathbf{W}\}}
\newcommand{\rmX}{\{\mathbf{X}\}}
\newcommand{\rmY}{\{\mathbf{Y}\}}
\newcommand{\rmZ}{\{\mathbf{Z}\}}

% % Elements of random matrices
\newcommand{\ermA}{\{\textnormal{A}\}}
\newcommand{\ermB}{\{\textnormal{B}\}}
\newcommand{\ermC}{\{\textnormal{C}\}}
\newcommand{\ermD}{\{\textnormal{D}\}}
\newcommand{\ermE}{\{\textnormal{E}\}}
\newcommand{\ermF}{\{\textnormal{F}\}}
\newcommand{\ermG}{\{\textnormal{G}\}}
\newcommand{\ermH}{\{\textnormal{H}\}}
\newcommand{\ermI}{\{\textnormal{I}\}}
\newcommand{\ermJ}{\{\textnormal{J}\}}
\newcommand{\ermK}{\{\textnormal{K}\}}
\newcommand{\ermL}{\{\textnormal{L}\}}
\newcommand{\ermM}{\{\textnormal{M}\}}
\newcommand{\ermN}{\{\textnormal{N}\}}
\newcommand{\ermO}{\{\textnormal{O}\}}
\newcommand{\ermP}{\{\textnormal{P}\}}
\newcommand{\ermQ}{\{\textnormal{Q}\}}
\newcommand{\ermR}{\{\textnormal{R}\}}
\newcommand{\ermS}{\{\textnormal{S}\}}
\newcommand{\ermT}{\{\textnormal{T}\}}
\newcommand{\ermU}{\{\textnormal{U}\}}
\newcommand{\ermV}{\{\textnormal{V}\}}
\newcommand{\ermW}{\{\textnormal{W}\}}
\newcommand{\ermX}{\{\textnormal{X}\}}
\newcommand{\ermY}{\{\textnormal{Y}\}}
\newcommand{\ermZ}{\{\textnormal{Z}\}}

```

```

% % Elements of vectors
\newcommand{\evalpha}{\{\alpha\}}
\newcommand{\evbeta}{\{\beta\}}

```

```

\newcommand{\evepsilon}{\{\epsilon\}}
\newcommand{\evlambda}{\{\lambda\}}
\newcommand{\evomega}{\{\omega\}}
\newcommand{\evmu}{\{\mu\}}
\newcommand{\evpsi}{\{\psi\}}
\newcommand{\evsigma}{\{\sigma\}}
\newcommand{\evtheta}{\{\theta\}}

```

```

\newcommand{\eva}{\{a\}}
\newcommand{\evb}{\{b\}}
\newcommand{\evc}{\{c\}}
\newcommand{\evd}{\{d\}}
\newcommand{\eve}{\{e\}}
\newcommand{\evf}{\{f\}}
\newcommand{\evg}{\{g\}}
\newcommand{\evh}{\{h\}}
\newcommand{\evi}{\{i\}}
\newcommand{\evj}{\{j\}}
\newcommand{\evk}{\{k\}}
\newcommand{\evl}{\{l\}}
\newcommand{\evm}{\{m\}}
\newcommand{\evn}{\{n\}}
\newcommand{\evo}{\{o\}}
\newcommand{\evp}{\{p\}}
\newcommand{\evq}{\{q\}}
\newcommand{\evr}{\{r\}}
\newcommand{\evs}{\{s\}}
\newcommand{\evt}{\{t\}}
\newcommand{\evu}{\{u\}}
\newcommand{\evv}{\{v\}}
\newcommand{\evw}{\{w\}}
\newcommand{\evx}{\{x\}}
\newcommand{\evy}{\{y\}}
\newcommand{\evz}{\{z\}}

```

```

% %% Matrix

```

```

\newcommand{\mBeta}{\{\bm{\beta}\}}
\newcommand{\mPhi}{\{\bm{\Phi}\}}

```

```
\newcommand{\mLambda}{\bm{\Lambda}}
```

```
\newcommand{\mSigma}{\bm{\Sigma}}
```

```
\newcommand{\mA}{\bm{A}}
```

```
\newcommand{\mB}{\bm{B}}
```

```
\newcommand{\mC}{\bm{C}}
```

```
\newcommand{\mD}{\bm{D}}
```

```
\newcommand{\mE}{\bm{E}}
```

```
\newcommand{\mF}{\bm{F}}
```

```
\newcommand{\mG}{\bm{G}}
```

```
\newcommand{\mH}{\bm{H}}
```

```
\newcommand{\mI}{\bm{I}}
```

```
\newcommand{\mJ}{\bm{J}}
```

```
\newcommand{\mK}{\bm{K}}
```

```
\newcommand{\mL}{\bm{L}}
```

```
\newcommand{\mM}{\bm{M}}
```

```
\newcommand{\mN}{\bm{N}}
```

```
\newcommand{\mO}{\bm{O}}
```

```
\newcommand{\mP}{\bm{P}}
```

```
\newcommand{\mQ}{\bm{Q}}
```

```
\newcommand{\mR}{\bm{R}}
```

```
\newcommand{\mS}{\bm{S}}
```

```
\newcommand{\mT}{\bm{T}}
```

```
\newcommand{\mU}{\bm{U}}
```

```
\newcommand{\mV}{\bm{V}}
```

```
\newcommand{\mW}{\bm{W}}
```

```
\newcommand{\mX}{\bm{X}}
```

```
\newcommand{\mY}{\bm{Y}}
```

```
\newcommand{\mZ}{\bm{Z}}
```

```
% \DeclareMathAlphabet{\mathsf}{\encodingdefault}{\sfdefault}{m}{sl}
```

```
% \SetMathAlphabet{\mathsf}{bold}{\encodingdefault}{\sfdefault}{bx}{n}
```

```
% \newcommand{\tens}[1]{\bm{\mathsf{#1}}}
```

```
% in mathjax use mathsf insteadly
```

```
\newcommand{\tens}[1]{\bm{\mathit{\mathsf{#1}}}}
```

```
% % Tensor
```

```
\newcommand{\tA}{\tens{A}}
```

```

\newcommand{\tB}{\tens{B}}
\newcommand{\tC}{\tens{C}}
\newcommand{\tD}{\tens{D}}
\newcommand{\tE}{\tens{E}}
\newcommand{\tF}{\tens{F}}
\newcommand{\tG}{\tens{G}}
\newcommand{\tH}{\tens{H}}
\newcommand{\tI}{\tens{I}}
\newcommand{\tJ}{\tens{J}}
\newcommand{\tK}{\tens{K}}
\newcommand{\tL}{\tens{L}}
\newcommand{\tM}{\tens{M}}
\newcommand{\tN}{\tens{N}}
\newcommand{\tO}{\tens{O}}
\newcommand{\tP}{\tens{P}}
\newcommand{\tQ}{\tens{Q}}
\newcommand{\tR}{\tens{R}}
\newcommand{\tS}{\tens{S}}
\newcommand{\tT}{\tens{T}}
\newcommand{\tU}{\tens{U}}
\newcommand{\tV}{\tens{V}}
\newcommand{\tW}{\tens{W}}
\newcommand{\tX}{\tens{X}}
\newcommand{\tY}{\tens{Y}}
\newcommand{\tZ}{\tens{Z}}

```

% % Graph

```

\newcommand{\gA}{\mathcal{A}}
\newcommand{\gB}{\mathcal{B}}
\newcommand{\gC}{\mathcal{C}}
\newcommand{\gD}{\mathcal{D}}
\newcommand{\gE}{\mathcal{E}}
\newcommand{\gF}{\mathcal{F}}
\newcommand{\gG}{\mathcal{G}}
\newcommand{\gH}{\mathcal{H}}
\newcommand{\gI}{\mathcal{I}}
\newcommand{\gJ}{\mathcal{J}}

```

```

\newcommand{\gK}{\mathcal{K}}
\newcommand{\gL}{\mathcal{L}}
\newcommand{\gM}{\mathcal{M}}
\newcommand{\gN}{\mathcal{N}}
\newcommand{\gO}{\mathcal{O}}
\newcommand{\gP}{\mathcal{P}}
\newcommand{\gQ}{\mathcal{Q}}
\newcommand{\gR}{\mathcal{R}}
\newcommand{\gS}{\mathcal{S}}
\newcommand{\gT}{\mathcal{T}}
\newcommand{\gU}{\mathcal{U}}
\newcommand{\gV}{\mathcal{V}}
\newcommand{\gW}{\mathcal{W}}
\newcommand{\gX}{\mathcal{X}}
\newcommand{\gY}{\mathcal{Y}}
\newcommand{\gZ}{\mathcal{Z}}

```

% % Sets

```

\newcommand{\sA}{\mathbb{A}}
\newcommand{\sB}{\mathbb{B}}
\newcommand{\sC}{\mathbb{C}}
\newcommand{\sD}{\mathbb{D}}

```

% % Don't use a set called E, because this would be the same as our symbol

% % for expectation.

```

\newcommand{\sF}{\mathbb{F}}
\newcommand{\sG}{\mathbb{G}}
\newcommand{\sH}{\mathbb{H}}
\newcommand{\sI}{\mathbb{I}}
\newcommand{\sJ}{\mathbb{J}}
\newcommand{\sK}{\mathbb{K}}
\newcommand{\sL}{\mathbb{L}}
\newcommand{\sM}{\mathbb{M}}
\newcommand{\sN}{\mathbb{N}}
\newcommand{\sO}{\mathbb{O}}
\newcommand{\sP}{\mathbb{P}}
\newcommand{\sQ}{\mathbb{Q}}
\newcommand{\sR}{\mathbb{R}}
\newcommand{\sS}{\mathbb{S}}

```

```

\newcommand{\sT}{\{\mathbb{T}\}}
\newcommand{\sU}{\{\mathbb{U}\}}
\newcommand{\sV}{\{\mathbb{V}\}}
\newcommand{\sW}{\{\mathbb{W}\}}
\newcommand{\sX}{\{\mathbb{X}\}}
\newcommand{\sY}{\{\mathbb{Y}\}}
\newcommand{\sZ}{\{\mathbb{Z}\}}

```

% % Entries of a matrix

```

\newcommand{\emSigma}{\{\Sigma\}}
\newcommand{\emLambda}{\{\Lambda\}}
\newcommand{\emA}{\{A\}}
\newcommand{\emB}{\{B\}}
\newcommand{\emC}{\{C\}}
\newcommand{\emD}{\{D\}}
\newcommand{\emE}{\{E\}}
\newcommand{\emF}{\{F\}}
\newcommand{\emG}{\{G\}}
\newcommand{\emH}{\{H\}}
\newcommand{\emI}{\{I\}}
\newcommand{\emJ}{\{J\}}
\newcommand{\emK}{\{K\}}
\newcommand{\emL}{\{L\}}
\newcommand{\emM}{\{M\}}
\newcommand{\emN}{\{N\}}
\newcommand{\emO}{\{O\}}
\newcommand{\emP}{\{P\}}
\newcommand{\emQ}{\{Q\}}
\newcommand{\emR}{\{R\}}
\newcommand{\emS}{\{S\}}
\newcommand{\emT}{\{T\}}
\newcommand{\emU}{\{U\}}
\newcommand{\emV}{\{V\}}
\newcommand{\emW}{\{W\}}
\newcommand{\emX}{\{X\}}
\newcommand{\emY}{\{Y\}}
\newcommand{\emZ}{\{Z\}}

```

```

% % entries of a tensor
% % Same font as tensor, without \bm wrapper
% \newcommand{\etens}[1]{\mathsf{#1}}
\newcommand{\etens}[1]{\mathit{\mathsf{#1}} }
\newcommand{\etLambda}{\etens{\Lambda}}
\newcommand{\etA}{\etens{A}}
\newcommand{\etB}{\etens{B}}
\newcommand{\etC}{\etens{C}}
\newcommand{\etD}{\etens{D}}
\newcommand{\etE}{\etens{E}}
\newcommand{\etF}{\etens{F}}
\newcommand{\etG}{\etens{G}}
\newcommand{\etH}{\etens{H}}
\newcommand{\etI}{\etens{I}}
\newcommand{\etJ}{\etens{J}}
\newcommand{\etK}{\etens{K}}
\newcommand{\etL}{\etens{L}}
\newcommand{\etM}{\etens{M}}
\newcommand{\etN}{\etens{N}}
\newcommand{\etO}{\etens{O}}
\newcommand{\etP}{\etens{P}}
\newcommand{\etQ}{\etens{Q}}
\newcommand{\etR}{\etens{R}}
\newcommand{\etS}{\etens{S}}
\newcommand{\etT}{\etens{T}}
\newcommand{\etU}{\etens{U}}
\newcommand{\etV}{\etens{V}}
\newcommand{\etW}{\etens{W}}
\newcommand{\etX}{\etens{X}}
\newcommand{\etY}{\etens{Y}}
\newcommand{\etZ}{\etens{Z}}

```

The command in markdown are defined as follows in mathJax

Click to unfold latex macro definition

```
<script>
window.MathJax = {
  tex: {
    inlineMath: [['$', '$']],
    displayMath: [['$$', '$$']],
    macros: {
      // General commands
      bm: ["\\boldsymbol{#1}", 1],
      sign: "\\operatorname{sign}",
      Tr: "\\operatorname{Tr}",
      E: "\\mathbb{E}",
      KL: "D_{\\mathrm{KL}}",
      NormalDist: "\\mathcal{N}",
      diag: "\\mathrm{diag}",
      Var: "\\mathrm{Var}",
      Cov: "\\mathrm{Cov}",
      standarderror: "\\mathrm{SE}",
      diff: "\\mathrm{d}",
      tran: "^{\\top}",
      inv: "^{-1}",
      rect: "\\mathrm{rectifier}",
      softmax: "\\mathrm{softmax}",
      sigmoid: "\\sigma",
      softplus: "\\zeta",
      R: "\\mathbb{R}",
      emp: "\\tilde{p}",
      lr: "\\alpha",
      reg: "\\lambda",
      Ls: "\\mathcal{L}",

      // Added missing bold Greek matrices
      mBeta: "\\bm{\\beta}",
      mPhi: "\\bm{\\Phi}",
      mLambda: "\\bm{\\Lambda}",
      mSigma: "\\bm{\\Sigma}",
    }
  }
}
```

```
// Random Greek vector
```

```
rvepsilon: "\\bm{\\epsilon}",
```

```
// Greek Vectors
```

```
vzero: "\\bm{0}",
```

```
vone: "\\bm{1}",
```

```
vmu: "\\bm{\\mu}",
```

```
vnu: "\\bm{\\nu}",
```

```
vtheta: "\\bm{\\theta}",
```

```
va: "\\bm{a}", vb: "\\bm{b}", vc: "\\bm{c}", vd: "\\bm{d}", ve: "\\bm{e}",
```

```
vf: "\\bm{f}", vg: "\\bm{g}", vh: "\\bm{h}", vi: "\\bm{i}", vj: "\\bm{j}",
```

```
vk: "\\bm{k}", vl: "\\bm{l}", vm: "\\bm{m}", vn: "\\bm{n}", vo: "\\bm{o}",
```

```
vp: "\\bm{p}", vq: "\\bm{q}", vr: "\\bm{r}", vs: "\\bm{s}", vt: "\\bm{t}",
```

```
vu: "\\bm{u}", vv: "\\bm{v}", vw: "\\bm{w}", vx: "\\bm{x}", vy: "\\bm{y}", vz: "\\bm{z}",
```

```
// Random vectors
```

```
rva: "\\mathbf{a}", rvb: "\\mathbf{b}", rvc: "\\mathbf{c}", rvd: "\\mathbf{d}", rve: "\\mathbf{e}",
```

```
rvf: "\\mathbf{f}", rvg: "\\mathbf{g}", rvh: "\\mathbf{h}", rvi: "\\mathbf{i}", rvj: "\\mathbf{j}",
```

```
rvk: "\\mathbf{k}", rvl: "\\mathbf{l}", rvm: "\\mathbf{m}", rvn: "\\mathbf{n}", rvo: "\\mathbf{o}",
```

```
rvp: "\\mathbf{p}", rvq: "\\mathbf{q}", rvr: "\\mathbf{r}", rvs: "\\mathbf{s}", rvt: "\\mathbf{t}",
```

```
rvu: "\\mathbf{u}", rvv: "\\mathbf{v}", rvw: "\\mathbf{w}", rvx: "\\mathbf{x}", rvy: "\\mathbf{y}", rvz:
```

```
"\\mathbf{z}",
```

```
// Random variables (single letters)
```

```
ra: "{\\textnormal{a}}", rb: "{\\textnormal{b}}", rc: "{\\textnormal{c}}", rd: "{\\textnormal{d}}", re:
```

```
"{\\textnormal{e}}",
```

```
rf: "{\\textnormal{f}}", rg: "{\\textnormal{g}}", rh: "{\\textnormal{h}}", ri: "{\\textnormal{i}}", rj:
```

```
"{\\textnormal{j}}",
```

```
rk: "{\\textnormal{k}}", rl: "{\\textnormal{l}}", rm: "{\\textnormal{m}}", rn: "{\\textnormal{n}}", ro:
```

```
"{\\textnormal{o}}",
```

```
rp: "{\\textnormal{p}}", rq: "{\\textnormal{q}}", rr: "{\\textnormal{r}}", rs: "{\\textnormal{s}}", rt:
```

```
"{\\textnormal{t}}",
```

```
ru: "{\\textnormal{u}}", rv: "{\\textnormal{v}}", rw: "{\\textnormal{w}}", rx: "{\\textnormal{x}}", ry:
```

```
"{\\textnormal{y}}", rz: "{\\textnormal{z}}",
```

```
// Matrices (bold)
```

```
mA: "\\bm{A}", mB: "\\bm{B}", mC: "\\bm{C}", mD: "\\bm{D}", mE: "\\bm{E}",
```

```
mF: "\\bm{F}", mG: "\\bm{G}", mH: "\\bm{H}", mI: "\\bm{I}", mJ: "\\bm{J}",
```

mK: "\\bm{K}", mL: "\\bm{L}", mM: "\\bm{M}", mN: "\\bm{N}", mO: "\\bm{O}",
mP: "\\bm{P}", mQ: "\\bm{Q}", mR: "\\bm{R}", mS: "\\bm{S}", mT: "\\bm{T}",
mU: "\\bm{U}", mV: "\\bm{V}", mW: "\\bm{W}", mX: "\\bm{X}", mY: "\\bm{Y}", mZ: "\\bm{Z}",

// Random Matrices

rmA: "\\mathbf{A}", rmB: "\\mathbf{B}", rmC: "\\mathbf{C}", rmD: "\\mathbf{D}", rmE: "\\mathbf{E}",
rmF: "\\mathbf{F}", rmG: "\\mathbf{G}", rmH: "\\mathbf{H}", rml: "\\mathbf{I}", rmJ: "\\mathbf{J}",
rmK: "\\mathbf{K}", rmL: "\\mathbf{L}", rmM: "\\mathbf{M}", rmN: "\\mathbf{N}", rmO: "\\mathbf{O}",
rmP: "\\mathbf{P}", rmQ: "\\mathbf{Q}", rmR: "\\mathbf{R}", rmS: "\\mathbf{S}", rmT: "\\mathbf{T}",
rmU: "\\mathbf{U}", rmV: "\\mathbf{V}", rmW: "\\mathbf{W}", rmX: "\\mathbf{X}", rmY: "\\mathbf{Y}",
rmZ: "\\mathbf{Z}",

// Elements of random matrices

ermA: "{\\textnormal{A}}", ermB: "{\\textnormal{B}}", ermC: "{\\textnormal{C}}", ermD:
"{\\textnormal{D}}",
ermE: "{\\textnormal{E}}", ermF: "{\\textnormal{F}}", ermG: "{\\textnormal{G}}", ermH:
"{\\textnormal{H}}",
erml: "{\\textnormal{I}}", ermJ: "{\\textnormal{J}}", ermK: "{\\textnormal{K}}", erml:
"{\\textnormal{L}}",
ermM: "{\\textnormal{M}}", ermN: "{\\textnormal{N}}", ermO: "{\\textnormal{O}}", ermP:
"{\\textnormal{P}}",
ermQ: "{\\textnormal{Q}}", ermR: "{\\textnormal{R}}", ermS: "{\\textnormal{S}}", ermT:
"{\\textnormal{T}}",
ermU: "{\\textnormal{U}}", ermV: "{\\textnormal{V}}", ermW: "{\\textnormal{W}}", ermX:
"{\\textnormal{X}}",
ermY: "{\\textnormal{Y}}", ermZ: "{\\textnormal{Z}}",

// Elements of vectors (Greek)

evalpha: "\\alpha",
evbeta: "\\beta",
evepsilon: "\\epsilon",
evlambda: "\\lambda",
evomega: "\\omega",
evmu: "\\mu",
evpsi: "\\psi",
evsigma: "\\sigma",
evtheta: "\\theta",

// Elements of vectors (Latin)

eva: "a", evb: "b", evc: "c", evd: "d", eve: "e",
evf: "f", evg: "g", evh: "h", evi: "i", evj: "j",
evk: "k", evl: "l", evm: "m", evn: "n", evo: "o",
evp: "p", evq: "q", evr: "r", evs: "s", evt: "t",
evu: "u", evv: "v", evw: "w", evx: "x", evy: "y", evz: "z",

// Matrix elements

emSigma: "\\Sigma",
emLambda: "\\Lambda",
emA: "A", emB: "B", emC: "C", emD: "D", emE: "E",
emF: "F", emG: "G", emH: "H", emI: "I", emJ: "J",
emK: "K", emL: "L", emM: "M", emN: "N", emO: "O",
emP: "P", emQ: "Q", emR: "R", emS: "S", emT: "T",
emU: "U", emV: "V", emW: "W", emX: "X", emY: "Y", emZ: "Z",

// Tensors

tens: [{"\\bm{\\mathsf{#1}}",1],
tA: "\\tens{A}", tB: "\\tens{B}", tC: "\\tens{C}", tD: "\\tens{D}", tE: "\\tens{E}",
tF: "\\tens{F}", tG: "\\tens{G}", tH: "\\tens{H}", tI: "\\tens{I}", tJ: "\\tens{J}",
tK: "\\tens{K}", tL: "\\tens{L}", tM: "\\tens{M}", tN: "\\tens{N}", tO: "\\tens{O}",
tP: "\\tens{P}", tQ: "\\tens{Q}", tR: "\\tens{R}", tS: "\\tens{S}", tT: "\\tens{T}",
tU: "\\tens{U}", tV: "\\tens{V}", tW: "\\tens{W}", tX: "\\tens{X}", tY: "\\tens{Y}", tZ: "\\tens{Z}",

// Graph (calligraphic)

gA: "\\mathcal{A}", gB: "\\mathcal{B}", gC: "\\mathcal{C}", gD: "\\mathcal{D}", gE: "\\mathcal{E}",
gF: "\\mathcal{F}", gG: "\\mathcal{G}", gH: "\\mathcal{H}", gI: "\\mathcal{I}", gJ: "\\mathcal{J}",
gK: "\\mathcal{K}", gL: "\\mathcal{L}", gM: "\\mathcal{M}", gN: "\\mathcal{N}", gO: "\\mathcal{O}",
gP: "\\mathcal{P}", gQ: "\\mathcal{Q}", gR: "\\mathcal{R}", gS: "\\mathcal{S}", gT: "\\mathcal{T}",
gU: "\\mathcal{U}", gV: "\\mathcal{V}", gW: "\\mathcal{W}", gX: "\\mathcal{X}", gY: "\\mathcal{Y}",
gZ: "\\mathcal{Z}",

// Sets

sA: "\\mathbb{A}", sB: "\\mathbb{B}", sC: "\\mathbb{C}", sD: "\\mathbb{D}",
sF: "\\mathbb{F}", sG: "\\mathbb{G}", sH: "\\mathbb{H}", sI: "\\mathbb{I}", sJ: "\\mathbb{J}",
sK: "\\mathbb{K}", sL: "\\mathbb{L}", sM: "\\mathbb{M}", sN: "\\mathbb{N}", sO: "\\mathbb{O}",
sP: "\\mathbb{P}", sQ: "\\mathbb{Q}", sR: "\\mathbb{R}", sS: "\\mathbb{S}", sT: "\\mathbb{T}",
sU: "\\mathbb{U}", sV: "\\mathbb{V}", sW: "\\mathbb{W}", sX: "\\mathbb{X}", sY: "\\mathbb{Y}", sZ:
"\\mathbb{Z}"
}

```
}  
};  
</script>  
<script id="MathJax-script" async src="https://cdn.jsdelivr.net/npm/mathjax@3/es5/tex-  
full.js"></script>
```

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