

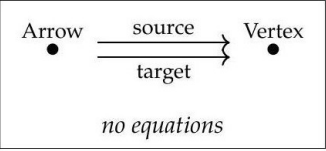
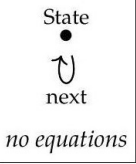
fong-spivak-seven-sketches: residuals

equations measured 2026-09-05T11:52:33Z against the model of 2026-09-03

Unresolved

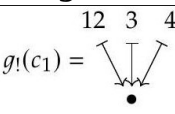
Identifier	Page	Conf.	LaTeX source	Rendered	Image
fong-spivak-seven-sketches_317 F03716 [conf 0.083]	317	■ 0.083	\left[f ; h ; \iota_{\mathrm{E}}, g \circ k ; \iota_{\mathrm{F}}\right]=(f+g) \begin{array}{c} \square \rightarrow \square \\ \square \rightarrow \square \end{array} - \text{[U+27C28]}(h+k)	(not rendered)	$[f \circ h \circ \iota_E, g \circ k \circ \iota_F] = (f + g) \circ (h + k)$, as required.
Conf. MathPix confidence: ■ ≥ 0.9 ■ 0.5–0.9 ■ < 0.5 — no value LaTeX source MathPix’s reading, unchanged; Rendered the same reading, with a display environment (align/alignat/flalign/eqnarray/gather/multline/split) mapped to its in-math form so it can typeset in this cell — the two may legitimately differ Residual render vs scan (inkdrill): ● C component ● W weak ● S stable ● N noise ● K clean ● not measured [refined: basis] beside an identifier: the LaTeX-source and Rendered cells both show a VERIFIED refinement, not MathPix’s own reading — basis names what verified it (e.g. ink, source). The original reading is unchanged in the model but is not the one drawn here.					

Flagged, not acted on

Identifier	Page	Conf.	LaTeX source	Rendered	Image
fong-spivak-seven-sketches E00064 (3.65)	112	■ 0.147 ● C +31	$\mathbf{G\,r}:=\stackrel{\text{Arrow}}{\underset{\text{target}}{\longrightarrow}}\stackrel{\text{source}}{\longrightarrow}\stackrel{\text{Vertex}}{\text{no equations}}$	$\mathbf{Gr} := \overset{\text{Arrow}}{\rightarrow} \overset{\text{source}}{\Rightarrow} \overset{\text{Vertex}}{\text{no equations}}$	$\mathbf{Gr} :=$  $\mathbf{DDS} :=$ 
fong-spivak-seven-sketches E00054 (3.11)	95	■ 0.526 ● C +43	$\mathbf{3}:=\operatorname{Free}\left(\stackrel{v_1}{\bullet}\stackrel{\rightarrow_{f_1}}{\longrightarrow}\stackrel{v_2}{\bullet}\stackrel{\rightarrow_{f_2}}{\longrightarrow}\stackrel{v_3}{\bullet}\right)$	$\mathbf{3} := \text{Free} \left(\overset{v_1}{\bullet} \xrightarrow{f_1} \overset{v_2}{\bullet} \xrightarrow{f_2} \overset{v_3}{\bullet} \right)$	$\mathbf{3} := \text{Free} \left(\begin{array}{c} \overset{v_1}{\bullet} \xrightarrow{f_1} \overset{v_2}{\bullet} \xrightarrow{f_2} \overset{v_3}{\bullet} \end{array} \right)$
fong-spivak-seven-sketches E00164	257	■ 0.917 ● C +22	$\stackrel{A}{\bullet}\stackrel{\longrightarrow}{\longrightarrow}\stackrel{B}{\bullet}\stackrel{\bullet}{\bullet}\stackrel{\longrightarrow}{\longrightarrow}\stackrel{C}{\bullet}$	$\overset{A}{\bullet} \xrightarrow{\quad} \overset{B}{\bullet} \quad \overset{C}{\bullet}$	$\overset{A}{\bullet} \xrightarrow{\quad} \overset{B}{\bullet} \quad \overset{C}{\bullet} \subseteq \left \overset{A}{\bullet} \xrightleftharpoons[f]{f} \overset{B}{\bullet} \xrightarrow{h} \overset{C}{\bullet} \xrightarrow{i} \overset{D}{\bullet} \right $
Conf. MathPix confidence: ■ ≥0.9 ■ 0.5–0.9 ■ <0.5 — no value LaTeX source MathPix’s reading, unchanged; Rendered the same reading, with a display environment (align/alignat/flalign/eqnarray/gather/multline/split) mapped to its in-math form so it can typeset in this cell — the two may legitimately differ Residual render vs scan (inkdrill): ● C component ● W weak ● S stable ● N noise ● K clean ● not measured [refined: basis] beside an identifier: the LaTeX-source and Rendered cells both show a VERIFIED refinement, not MathPix’s own reading — <i>basis</i> names what verified it (e.g. ink, source). The original reading is unchanged in the model but is not the one drawn here.					

69 more flagged rows below the band, stated as a count: 37 component, 32 weak; confidence high 39, mid 12, low 18, none 0

Low confidence

Identifier	Page	Conf.	LaTeX source	Rendered	Image
fong-spivak-seven-sketches EQ0186 [conf 0.050]	279	0.050	$g!\left(c_{1}\right)={ }^{12} 3{ }^{4}$	$g!\left(c_{1}\right)={ }^{12} 3^{4}$	
Conf. MathPix confidence: ■ ≥ 0.9 ■ 0.5-0.9 ■ < 0.5 — no value LaTeX source MathPix’s reading, unchanged; Rendered the same reading, with a display environment (align/alignat/flalign/eqnarray/gather/multline/split) mapped to its in-math form so it can typeset in this cell — the two may legitimately differ Residual render vs scan (inkdrill): ● C component ● W weak ● S stable ● N noise ● K clean ● not measured [refined: <i>basis</i>] beside an identifier: the LaTeX-source and Rendered cells both show a VERIFIED refinement, not MathPix’s own reading — <i>basis</i> names what verified it (e.g. ink, source). The original reading is unchanged in the model but is not the one drawn here.					

Doubted but correct

Identifier	Page	Conf.	LaTeX source	Rendered	Image
fong-spivak-seven-sketches_7 EQ0133 [conf 0.025]	214	■ 0.025 ● S +1	$\begin{aligned} \mu_X &:= \left(X + X \xrightarrow{\mathrm{id}_X, \mathrm{id}_X} X \xleftarrow{\mathrm{id}_X} X \right) \\ \eta_X &:= \left(\emptyset \xrightarrow{!_X} X \xleftarrow{\mathrm{id}_X} X \right) \\ \delta_X &:= \left(X \xrightarrow{\mathrm{id}_X} X \xleftarrow{[\mathrm{id}_X, \mathrm{id}_X]} X + X \right) \\ \epsilon_X &:= \left(X \xrightarrow{\mathrm{id}_X} X \xleftarrow{!_X} \emptyset \right) \end{aligned}$	$\begin{aligned} \mu_X &:= \left(X + X \xrightarrow{[\mathrm{id}_X, \mathrm{id}_X]} X \xleftrightarrow{id}_X X \right) \\ \eta_X &:= \left(\emptyset \xrightarrow{!_X} X \xleftarrow{\mathrm{id}_X} X \right) \\ \delta_X &:= \left(X \xrightarrow{\mathrm{id}_X} X \xleftarrow{[\mathrm{id}_X, \mathrm{id}_X]} X + X \right) \\ \epsilon_X &:= \left(X \xrightarrow{\mathrm{id}_X} X \xleftrightarrow{!_X} \emptyset \right) \end{aligned}$	$\begin{aligned} \mu_X &:= \left(X + X \xrightarrow{[\mathrm{id}_X, \mathrm{id}_X]} X \xleftarrow{\mathrm{id}_X} X \right) \\ \eta_X &:= \left(\emptyset \xrightarrow{!_X} X \xleftarrow{\mathrm{id}_X} X \right) \\ \delta_X &:= \left(X \xrightarrow{\mathrm{id}_X} X \xleftarrow{[\mathrm{id}_X, \mathrm{id}_X]} X + X \right) \\ \epsilon_X &:= \left(X \xrightarrow{\mathrm{id}_X} X \xleftarrow{!_X} \emptyset \right) \end{aligned}$
fong-spivak-seven-sketches_7 EQ0188 [conf 0.038]	279	■ 0.038 ● S +2	$\mathbf{g}_{\{!\}} \left(c_3 \right) = \{ \}^{\{12\}} \{ \} \downarrow \{ \}^{\{3\}} \stackrel{\{4\}}{\bullet}$	$g!(c_3) = \begin{matrix} 12 & 3 & 4 \\ \downarrow & \downarrow & \downarrow \\ \bullet & & \bullet \end{matrix}$	$g!(c_3) = \begin{matrix} 12 & 3 & 4 \\ \downarrow & \downarrow & \downarrow \\ \bullet & & \bullet \end{matrix}$
Conf. MathPix confidence: ■ ≥0.9 ■ 0.5–0.9 ■ <0.5 — no value					
LaTeX source MathPix’s reading, unchanged; Rendered the same reading, with a display environment (align/alignat/flalign/eqnarray/gather/multline/split) mapped to its in-math form so it can typeset in this cell — the two may legitimately differ					
Residual render vs scan (inkdrill): ● C component ● W weak ● S stable ● N noise ● K clean ● not measured					
[refined: <i>basis</i>] beside an identifier: the LaTeX-source and Rendered cells both show a VERIFIED refinement, not MathPix’s own reading — <i>basis</i> names what verified it (e.g. ink, source). The original reading is unchanged in the model but is not the one drawn here.					