

Pyk-definitioner: [propcalc $\xrightarrow{\text{pyk}}$ “propcalc”] [$x \Rightarrow y \xrightarrow{\text{pyk}}$ “* implies *”]
 [A1 $\xrightarrow{\text{pyk}}$ “axiom one”] [A2 $\xrightarrow{\text{pyk}}$ “axiom two”] [A3 $\xrightarrow{\text{pyk}}$ “axiom three”]
 [MP $\xrightarrow{\text{pyk}}$ “rule mp”] [Mendelson1.8 $\xrightarrow{\text{pyk}}$ “lemma id”]

[propcalc $\xrightarrow{\text{stmt}}$ $\forall \underline{a}: \forall \underline{b}: \underline{a} \vdash \underline{a} \Rightarrow \underline{b} \vdash \underline{b} \oplus \forall \underline{a}: \forall \underline{b}: \forall \underline{c}: \underline{a} \Rightarrow \underline{b} \Rightarrow \underline{c} \Rightarrow \underline{a} \Rightarrow \underline{b} \Rightarrow \underline{a} \Rightarrow$
 $\underline{c} \oplus \forall \underline{a}: \forall \underline{b}: \underline{a} \Rightarrow \underline{b} \Rightarrow \underline{a} \oplus \forall \underline{a}: \forall \underline{b}: \underline{\neg b} \Rightarrow \underline{\neg a} \Rightarrow \underline{\neg b} \Rightarrow \underline{a} \Rightarrow \underline{b}$]

Tex-definitioner: [$\neg x \xrightarrow{\text{tex}}$ “\neg #1.”] [$x \Rightarrow y \xrightarrow{\text{tex}}$ “#1.
 $\backslash \text{Rightarrow}\{\}$ #2.”] [A1 $\xrightarrow{\text{tex}}$ “A1”] [A2 $\xrightarrow{\text{tex}}$ “A2”] [A3 $\xrightarrow{\text{tex}}$ “A3”] [MP $\xrightarrow{\text{tex}}$ “MP”]
 [Mendelson1.8 $\xrightarrow{\text{tex}}$ “Mendelson 1.8”]

[A1 $\xrightarrow{\text{stmt}}$ propcalc $\vdash \forall \underline{a}: \forall \underline{b}: \underline{a} \Rightarrow \underline{b} \Rightarrow \underline{a}$] [A1 $\xrightarrow{\text{proof}}$ Rule tactic]
 [A2 $\xrightarrow{\text{stmt}}$ propcalc $\vdash \forall \underline{a}: \forall \underline{b}: \forall \underline{c}: \underline{a} \Rightarrow \underline{b} \Rightarrow \underline{c} \Rightarrow \underline{a} \Rightarrow \underline{b} \Rightarrow \underline{a} \Rightarrow \underline{c}$] [A2 $\xrightarrow{\text{proof}}$
 Rule tactic]

[A3 $\xrightarrow{\text{stmt}}$ propcalc $\vdash \forall \underline{a}: \forall \underline{b}: \underline{\neg b} \Rightarrow \underline{\neg a} \Rightarrow \underline{\neg b} \Rightarrow \underline{a} \Rightarrow \underline{b}$] [A3 $\xrightarrow{\text{proof}}$ Rule tactic]

[MP $\xrightarrow{\text{stmt}}$ propcalc $\vdash \forall \underline{a}: \forall \underline{b}: \underline{a} \vdash \underline{a} \Rightarrow \underline{b} \vdash \underline{b}$] [MP $\xrightarrow{\text{proof}}$ Rule tactic]

[mendelson lemma one eight $\xrightarrow{\text{stmt}}$ propcalc $\vdash \forall \underline{a}: \underline{a} \Rightarrow \underline{a}$] ¹

[mendelson lemma one eight $\xrightarrow{\text{proof}}$ $\lambda c. \lambda x. \mathcal{P}([\text{propcalc} \vdash \forall \underline{a}: \text{A2} \gg \underline{a} \Rightarrow \underline{a} \Rightarrow$
 $\underline{a} \Rightarrow \underline{a} \Rightarrow \underline{a} \Rightarrow \underline{a} \Rightarrow \underline{a} \Rightarrow \underline{a} \Rightarrow \underline{a}; \text{A1} \gg \underline{a} \Rightarrow \underline{a} \Rightarrow \underline{a} \Rightarrow \underline{a}; \text{MP} \triangleright \underline{a} \Rightarrow \underline{a} \Rightarrow \underline{a} \Rightarrow$
 $\underline{a} \triangleright \underline{a} \Rightarrow \underline{a} \Rightarrow \underline{a} \Rightarrow \underline{a} \Rightarrow \underline{a} \Rightarrow \underline{a} \Rightarrow \underline{a} \Rightarrow \underline{a} \Rightarrow \underline{a} \Rightarrow \underline{a} \gg \underline{a} \Rightarrow \underline{a} \Rightarrow \underline{a} \Rightarrow \underline{a} \Rightarrow \underline{a}; \text{A1} \gg \underline{a} \Rightarrow$
 $\underline{a} \Rightarrow \underline{a}; \text{MP} \triangleright \underline{a} \Rightarrow \underline{a} \Rightarrow \underline{a} \triangleright \underline{a} \Rightarrow \underline{a} \Rightarrow \underline{a} \Rightarrow \underline{a} \Rightarrow \underline{a} \gg \underline{a} \Rightarrow \underline{a}], p_0, c)$]

¹[mendelson lemma one eight $\xrightarrow{\text{pyk}}$ “mendelson lemma one eight”]