1

In all cases we assume that the result it t.

a)

[Darth Vader]$_{\text{e}}$ [is [[the father of]$_{(\text{e},(\text{t},\text{e}))}$ Luke$_{\text{e}}$]]$_{(\text{e},\text{t})}$

$$\text{father}(dw, l)$$

b)

[[Every]$_{\text{e}}$ Jedi$_{(\text{e},\text{t})}$] [has [a lightsaber]$_{\text{e}}$]$_{(\text{e},\text{t})}$

$$\forall x : \text{jedi}(x) \rightarrow \text{has}(x, l)$$

c)

[Padmé Amidala]$_{\text{e}}$ [is [the [[most$_{(((\text{e},\text{t}),(\text{e},\text{t})),((\text{e},\text{t}),(\text{e},\text{t})))}$ beautiful$_{((\text{e},\text{t}),(\text{e},\text{t}))}$] woman$_{(\text{e},\text{t})}$]] on Naboo$_{\text{e}}$]$_{(\text{e},\text{t})}$

$$\text{woman}(pa) \wedge \text{is\_on}(pa, nb) \wedge \forall w : (\text{woman}(w) \wedge \text{is\_on}(w, nb)) \rightarrow \text{more\_same\_beautiful}(pa, w)$$

2

2.1

a)

$$V_M(\text{anakin}) = e_1,\ V_M(\text{yoda}) = e_2,\ V_M(\text{padme}) = e_3,$$

b)

$$V_M(\text{jedi}) = [e_1 \rightarrow 1, e_2 \rightarrow 1, e_3 \rightarrow 0]$$

c)

$$\begin{gathered} V_M(\text{help}) = [\\ e_1 \rightarrow [e_1 \rightarrow 0, e_2 \rightarrow 1, e_3 \rightarrow 1], \\ e_2 \rightarrow [e_1 \rightarrow 1, e_2 \rightarrow 0, e_3 \rightarrow 1], \\ e_3 \rightarrow [e_1 \rightarrow 0, e_2 \rightarrow 0, e_3 \rightarrow 0] \\ ] \end{gathered}$$

2.2

a)

$$[\![\text{help}(\text{padme})]\!]^{M,g} = [\![\text{help}]\!]^{M,g}([\![\text{padme}]\!]^{M,g}) = [e_1 \rightarrow 1, e_2 \rightarrow 1, e_3 \rightarrow 1]$$

b)

$$[\![\forall x \text{help}(x)(x) \rightarrow \neg\text{jedi}(x)]\!]^{M,g} = 1$$

c)

$$[\![\forall F \exists x : F(x)]\!]^{M,g} = 1$$