

S T Q Q S S D

$$Q3 \rightarrow \exists x (\varphi(x)) \wedge \forall y \forall z [(\varphi(y) \wedge \varphi(z)) \rightarrow y = z]$$

a) Resposta: $\exists x (\varphi(x)) \wedge \forall y \forall z [(\varphi(y) \wedge \varphi(z)) \rightarrow y \neq z]$

b) Resposta: $\exists x (\varphi(x)) \wedge \forall y \forall z \forall w (\varphi(y) \wedge \varphi(z) \wedge \varphi(w) \rightarrow (y = z) \vee (z = w) \vee (y = w))$

c) Resposta: $\exists x (\varphi(x)) \wedge \forall y \forall z [(\varphi(y) \wedge \varphi(z)) \rightarrow y \neq z] \wedge \forall a \forall b \forall c (\varphi(a) \wedge \varphi(b) \wedge \varphi(c) \rightarrow (a = b) \wedge (b = c) \wedge (a = c))$