9.2.6.1. $(\exists x)(\neg(\exists y)p(y) \rightarrow (\forall y)(q(y) \rightarrow r(x)))$

Forma normala prenexa

$(\exists x)(\neg(\neg(\exists y)p(y)) \vee (\forall y)(\neg q(y) \vee r(x)))$ - se inlocuieste $\rightarrow$

$(\exists x)((\exists y)p(y) \vee (\forall y)(\neg q(y) \vee r(x)))$ - se aplica DeMorgan

$(\exists x)((\exists y)p(y) \vee (\forall z)(\neg q(z) \vee r(x)))$ - se redenumesc variabilele legate astfel incat sa fie distincte

$(\exists x)(\exists y)(p(y) \vee (\forall z)(\neg q(z) \vee r(x)))$ - se extrage $(\exists y)$

$(\exists x)(\exists y)(\forall z)(p(y) \vee \neg q(z) \vee r(x))$ - se extrage $(\forall z)$

Forme normale prenexe posibile:

$(\exists x)(\exists y)(\forall z)(p(y) \vee \neg q(z) \vee r(x))$

$(\exists x)(\forall z)(\exists y)(p(y) \vee \neg q(z) \vee r(x))$

$(\exists y)(\exists x)(\forall z)(p(y) \vee \neg q(z) \vee r(x))$

$(\exists y)(\forall z)(\exists x)(p(y) \vee \neg q(z) \vee r(x))$

$(\forall z)(\exists x)(\exists y)(p(y) \vee \neg q(z) \vee r(x))$

$(\forall z)(\exists y)(\exists x)(p(y) \vee \neg q(z) \vee r(x))$

Formula normala Skolem

$(\exists x)(\exists y)(\forall z)(p(y) \vee \neg q(z) \vee r(x))$ - se incepe cu o forma normala prenexa

$x = a$ – x se inlocuieste cu o constanta

$y = b$ – y se inlocuieste cu o constanta

Forma Skolem: $(\forall z)(p(b) \vee \neg q(z) \vee r(a))$

$(\exists x)(\forall z)(\exists y)(p(y) \vee \neg q(z) \vee r(x))$

$x = a$

$y = f(z)$

Forma Skolem: $(\forall z)(p(f(z)) \vee \neg q(z) \vee r(a))$

$(\exists y)(\exists x)(\forall z)(p(y) \vee \neg q(z) \vee r(x))$

y =a

x =b

Forma Skolem: (∀ z) (p(a) ∨ ¬ q(z) ∨ r(b))

(∃ y) (∀ z) (∃ x) (p(y) ∨ ¬ q(z) ∨ r(x))

y = a

x= f(z)

Forma Skolem: (∀ z) (p(a) ∨ ¬ q(z) ∨ r(f(z)))

(∀ z) (∃ x) (∃ y) (p(y) ∨ ¬ q(z) ∨ r(x))

x = f(z)

y = g(z)

Forma Skolem: (∀ z) (p(g(z)) ∨ ¬ q(z) ∨ r(f(z)))

(∀ z) (∃ y) (∃ x) (p(y) ∨ ¬ q(z) ∨ r(x))

y = f(z)

x = g(z)

Forma Skolem: (∀ z) (p(f(z)) ∨ ¬ q(z) ∨ r(g(z)))

<u>Forma normala clauzala</u>

(∀ z) (p(b) ∨ ¬ q(z) ∨ r(a)) - se ia o forma Skolem

p(b) ∨ ¬ q(z) ∨ r(a) - se elimina cuantificatorii si se aplica disctibutivitatea ∨ fata de ∧

p(y) ∨ ¬ q(z) ∨ r(x)

p(a) ∨ ¬ q(z) ∨ r(b)

p(a) ∨ ¬ q(z) ∨ r(f(z))

p(g(z)) ∨ ¬ q(z) ∨ r(f(z))

p(f(z)) ∨ ¬ q(z) ∨ r(g(z))