Oefeningen Logica

LogicPalet:

* Oefening 1:
  1. ∀x: Triangle(x) ∧ Small(x) ⇒ ∀y: Square(y) ⇒ LeftOf(x,y)
  2. /
  3. /
  4. ∃x: Pentagon(x) ∧ ∀y: Square(y) ∧ Small(y) ⇒ BackOf(x,y)
  5. ∃x: Square(x) ∧ (¬∀y: Square(y) ⇒ ∀z: Triangle(z) ⇒ Smaller(y,z))
* Oefening 2:
  1. /
  2. /
  3. ∃x: Pentagon(x) ∧ ∃y: Pentagon(y) ∧ x≠y ∧ ∀z: Triangle(z) ∧ Small(z) ⇒ BackOf(x,z) ∧ BackOf(y,z)
  4. ∀x: ∀y: (¬∃z: Square(z) ∧ BackOf(z,x)) ∧ (¬∃u: Square(u) ∧ BackOf(u,y)) ⇒ x=y
  5. ∃x: Square(x) ∧ Large(x) ∧ ∃y: Square(y) ∧ Large(y) ∧ x≠y ∧ (∀z: LeftOf(z,x) ∨ LeftOf(z,y) ⇒ Square(z))
* Oefening 3:
  1. ∃x: Triangle(x) ∧ LeftOf(x,a) ∧ (∀y: Pentagon(y) ∧ Smaller(y,a) ⇒ BackOf(x,y))
  2. /
  3. /
  4. /
  5. ∃x: Pentagon(x) ∧ ∀y: Pentagon(y) ⇒ x=y ∧ ∀z: Square(z) ⇒ BackOf(x,z)
* Oefening 4:
  1. ∀x: Square(x) ∧ (Medium(x) ∨ ∃y: Medium(y) ∧ BackOf(x,y)) ⇒ ∀z: Triangle( z) ∧ Large(z) ⇒ LeftOf(x,z)
  2. ∃x: Triangle(x) ∧ ∀y: (Square(y) ∧ ∀z: Pentagon(z) ⇒ RightOf(y,z)) ⇒ FrontOf(x,y)
  3. /
  4. ∃x: Square(x) ∧ ∃y: Square(y) ∧ x≠y ∧ ∀z: Triangle(z) ∧ (∀u: Pentagon(u) ⇒ RightOf(z,u)) ⇒ BackOf(x,z) ∧ BackOf(y,z)
  5. (¬∃x: Pentagon(x)) ∨ ∃y: Large(y) ∧ ∃z: Large(z) ∧ y≠z ∧ LeftOf(y,a) ∧ LeftOf(z,a) ∧ ∀u: Large(u) ∧ LeftOf(u,a) ⇒ u=y ∨ u=z
* Oefening 5:
  1. ∀x: (∃y: Square(y) ∧ RightOf(y,x) ∧ ∃z: Square(z) ∧ RightOf(z,x) ∧ y≠z) ⇒ Square(x)
  2. ¬∃x:∃y: x ≠ y  ∧ (∀z: Square(z)  ∧ RightOf(z,x)  ⇒ FrontOf(x,z))  ∧ (∀z:Square(z)  ∧ RightOf(z,y)  ⇒ FrontOf(y,z))
  3. /
  4. ¬∃x:∃y: x ≠ y  ∧ Square(x) ∧ Square(y)  ∧ ¬( ∀ z:Triangle(z)  ⇒ RightOf(x,z))  ∧ ¬( ∀ z:Triangle(z)  ⇒ RightOf(y,z))
  5. ¬∃x: ∃y: ∃z: (∃u: Square(u) ∧ FrontOf(x,u) ∧ FrontOf(y,u) ∧ FrontOf(z,u)) ∧ x≠y ∧ x≠z ∧ y≠z
* Oefening: 6
  1. ¬∃x: Square(x) ∧ ∃y: Triangle(y) ∧ RightOf(x,y)
  2. ∀x: Small(x) ∧ Triangle(x) ⇒ ∀y: Large(y) ∧ Square(y) ⇒ BackOf(x,y)
  3. /
  4. /
  5. ∃x: Square(x) ∧ ∃y: LeftOf(y,x) ∧ ¬∃z: Large(z) ∧ BackOf(z,y) of ∃x: Square(x) ∧ ∃y: LeftOf(y,x) ∧ ∀z: Large(z) ⇒ ¬BackOf(z,y)
* Oefening 7:
  1. ∃x: Square(x) ∧ ∀z: z≠x ∧ Square(z) ⇒ LeftOf(x,z)
  2. ∀x: Large(x) ∧ (∀y: Triangle(y) ⇒ ¬BackOf(y,x)) ⇒ Pentagon(x)
  3. /
  4. /
  5. ∃x: Pentagon(x) ∧ Small(x) ∧ ∃y: Pentagon(y) ∧ Small(y) ∧ x≠y ∧ ∃z: Triangle(z) ∧ LeftOf(x,z) ∧ LeftOf(y,z) ∧ (¬∃u: Square(u) ∧ BackOf(u,z))