Exercice 1

F	G	F ↔ G	F → G	G → F	((F → G) ∧ (G → F))
0	0	1	1	1	1
0	1	0	1	0	0
1	0	0	0	1	0
1	1	1	1	1	1
(F ↔ G) ≅ ((F → G) ∧ (G → F))					

F	G	¬ F	F → G	¬F ∨ G
0	0	1	1	1
0	1	1	1	1
1	0	0	0	0
1	1	0	1	1
(F → G) ≅ (¬F ∨ G)				

F	G	H	G ∨ H	F ∧ G	F ∧ H	(F ∧ (G ∨ H))	((F ∧ G) ∨ (F ∧ H))
0	0	0	0	0	0	0	0
0	0	1	1	0	0	0	0
0	1	0	1	0	0	0	0
0	1	1	1	0	0	0	0
1	0	0	0	0	0	0	0
1	0	1	1	0	1	1	1
1	1	0	1	1	0	1	1
1	1	1	1	1	1	1	1
(F ∧ (G ∨ H)) ≅ ((F ∧ G) ∨ (F ∧ H))							

F	G	¬ F	¬ G	F ∨ G	¬ (F ∨ G)	(¬F ∧ ¬G)
0	0	1	1	0	1	1
0	1	1	0	1	0	0
1	0	0	1	1	0	0
1	1	0	0	1	0	0
(¬ (F ∨ G)) ≅ (¬F ∧ ¬G)						

Exercice 3

¬ CONCENTRER → BRUIT.

RECOMPENCE → QUELQU'UN ∧ MERITE.

GENS ∧ BRILLANTS → RECOMPENCE.

Exercice 4

Formule U(x), U(y), T(x), T(y).

Variable x, y.

(U(x) → U(y)) → T(x)

((U(x) → U(y)) → T(x)) → T(y)

∃x ∀y (((U(x) → U(y)) → T(x)) → T(y))

Exercice 6

Last (L, X) est vrai si X est le dernier élément de L:

Last ([_|L], X) :- Last (L, X).

Convertir (L,N) :-
        Convertir (L,0,N).

Convertir ([H|T], A, N) :-
        !,
        B is A*10+H,
        Convertir (T, B, N).
        Convertir (_, N, N).

Duplic (L, N, Copies) :-
        length (Lists, N),
        maplist (=(L), Lists),
        append (Lists, Copies).

Color (vert).

Color (jaune).

Color (rouge).

Coloriage (C1, C2, C3, C4): -

        Color (C1),
        Color (C2),
        Color (C3),
        Color (C4),
        C1\=C2, C1\=C3, C1\=C4, C2\=C3, C3\=C4.

Coloriage (C1, C2, C3, C4):

        Color (C1),
        Color (C2), C1\=C2,
        Color (C3), C1\=C3, C2\=C3,
        Color (C4), C1\=C4, C3\=C4.