1 Proposition Practice

1. (∃x∈R)(x∉Q).True
2. (∀x∈Z)(x∈N∨x<0).True
3. (∀x∈N)((x|6) ⇒ (x|2) ∨ (x|3)).True
4. True.
5. False.
6. True.

2 Truth Table

1. Not equivalent.

P	Q	P∧(Q∨P)	P∧Q
T	T	T	T
T	F	T	F
F	T	F	F
F	F	F	F

2. Equivalent.

P	Q	R	(P∨Q)∧R	(P∧R)∨(Q∧R)
T	T	T	T	T
T	T	F	F	F
T	F	T	T	T
T	F	F	F	F
F	T	T	T	T
F	T	F	F	F
F	F	T	F	F
F	F	F	F	F

3. Equivalent.

P	Q	R	(P∧Q)∨R	(P∨R)∧(Q∨R)
T	T	T	T	T
T	T	F	T	T
T	F	T	T	T
T	F	F	F	F
F	T	T	T	T
F	T	F	F	F
F	F	T	T	T
F	F	F	F	F

3 Truth Table

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