

71.71

①

a	b	c	a ∧ b	b ∨ c	a ∧ (b ∨ c)
T	T	T	T	T	T
T	T	F	T	T	T
T	F	F	F	F	F
F	F	F	F	F	F
F	F	T	F	T	F
F	T	T	F	T	F
F	T	F	F	T	F
T	F	T	T	T	T

②

a	b	c	∧	∨	∧	(a ∧ b) ∨ (a ∧ c)
T	T	T	T	T	T	T
T	T	F	T	T	F	T
T	F	F	F	F	F	F
F	F	F	F	F	F	F
F	F	T	F	F	F	F
F	T	T	F	F	F	F
F	T	F	F	F	F	F
T	F	T	F	T	T	T

① = ②



1.2 ①

2

a	b	c	v	Λ	$a \vee (b \wedge c)$
T	T	T	T	T	T
T	T	F	T	F	T
T	F	F	T	F	T
F	F	F	F	F	F
F	F	T	F	F	F
F	T	T	T	T	T
T	F	T	T	F	T
F	T	F	F	F	F

②

a	b	c	v	Λ	<del>Λ</del>	$(a \vee b) \wedge (a \vee c)$
T	T	T	T	T	T	T
T	T	F	T	T	T	T
T	F	F	T	T	<del>True</del>	T
F	F	F	F	F	F	F
F	F	T	F	F	T	F
F	T	T	T	T	T	T
F	T	F	T	F	F	F
T	F	T	T	T	T	T

①-② ✓

1.3

a	$a \vee a$
T	T
F	F

✓

1.4

a	$a \wedge a$
T	T
F	F

✓

## Equivalent

$$\begin{aligned} 1) (a \vee b) \wedge c &\stackrel{?}{=} \neg(\neg(\neg a \wedge \neg c) \supset \neg c) \\ &\stackrel{?}{=} \neg(\neg\neg(a \vee b) \supset \neg c) \quad (2) \\ &\stackrel{?}{=} \neg((a \vee b) \supset \neg c) \quad (3) \\ &\stackrel{?}{=} \neg(\neg(a \vee b) \vee \neg c) \quad (4) \\ &\stackrel{?}{=} \neg\neg(a \vee b) \wedge \neg\neg c \quad (1) \\ &\stackrel{?}{=} (a \vee b) \wedge c \end{aligned}$$

✓

$$2) a \vee b \vee a \supset c$$

$$\begin{aligned} &\stackrel{?}{=} \neg(\neg b \wedge \neg a) \supset c \\ &\stackrel{?}{=} \neg\neg(b \vee a) \supset c \quad (2) \\ &\stackrel{?}{=} b \vee a \supset c \quad (3) \end{aligned}$$



2.5) ①

a	b	c	$\neg a$	$\neg b$	$(a \vee b) \wedge c$
T	T	T	F	F	T
T	T	F	F	F	F
T	F	F	F	T	F
F	F	F	T	T	F
F	F	T	T	F	F
F	T	T	T	F	T
T	F	T	F	T	T
F	T	F	T	F	F

②

a	b	c	$\neg a$	$\neg b$	$\neg c$	$\neg(\neg a \wedge \neg b) \supset \neg c$
T	T	T	F	F	F	T
T	T	F	F	F	T	F
T	F	F	F	T	T	F
F	F	F	T	T	T	F
F	F	T	T	F	T	F
F	T	T	T	F	F	T
F	T	F	T	T	F	F
T	F	T	F	T	F	T

①  $\equiv$  ②