1)

p	q	p∨q	p↓q
0	0	0	1
0	1	1	0
1	0	1	0
1	1	1	0

2) $p \downarrow p \equiv \neg(p \vee p)$

$\equiv \neg p \wedge \neg p$ D.M.G

$\equiv \neg p$

p	¬p	¬p∧¬p
0	1	1
1	0	0

They are logically equivalent

3) $(p \downarrow q) \downarrow (p \downarrow q)$

$\equiv \neg([\neg(p \vee q)] \vee [\neg(p \vee q)])$

$\equiv \neg[\neg(p \vee q)] \wedge \neg[\neg(p \vee q)]$ D.M.G

$\equiv (p \vee q) \wedge (p \vee q)$ Double negation

$\equiv p \vee q$ As $r \wedge r \equiv r$

$p \vee q \equiv (p \downarrow q) \downarrow (p \downarrow q)$