$x = y \equiv \varphi$

$\forall x \exists y . \; x \vee y \wedge \bar{x} \vee y$

$n = 2$

$m = 2$

$(2,2) \quad (2,1) \quad (2,2)$

$\forall x \; L_x \exists y . L_x L_y . \; \varphi =$

$f_2(x,y) = 1 - x - y + 3xy - x^2y - xy^2 + x^2y^2$

$\downarrow$

$f_2(x,y)$

$f_{2,2}(x,y) = f_2(x,y)$

L_y $f_{2,1}(x,y) = L_y(f_2(x,y)) = L_y(f_{2,2}(x,y))$

$= 1 - x - y + 2xy$

L_x $f_{2,0}(x,y) = 1 - x - y + 2xy$

$\exists y$ $f_{1,1}(x) = f_{2,0}(x,0) + f_{2,0}(x,1) - f_{2,0}(x,0) \cdot f_{2,0}(x,1)$

$= (1-x) + x - (1-x)x$

L_x $= 1 - x + x^2$

$f_{1,0}(x) = 1$

$\forall x$ $f_{0,0} = f_{1,0}(0) \cdot f_{1,0}(1)$

$= 1$

Round 0

P sends $f_{0,0} = 1$

Round 1 ($\forall x$)

V asks for $f_{1,0}(x)$

P sends 1

V checks $f_{0,0} = f_{1,0}(1) \cdot f_{1,0}(0)$

Round 2 ($\exists x$)

V picks $r_1 = 3$ asks for $f_{1,1}(x)$.

P sends $1 - x + x^2$

V checks $(1-3)\cdot(1-0+0) + 3\cdot(1-1+1)$

$= 1 = f_{1,0}(3)$

Round 3 ($\forall y$)

V picks $r_1 = 5$ asks for $f_{2,0}(5, y)$

P sends $1 - 5 - y + 10y = 9y - 4$

V checks $f_{2,0}(5,0) + f_{2,0}(5,1) - f_{2,0}(5,0) \cdot f_{2,0}(5,1)$

$= -4 + 5 - (-4)\cdot 5 = 21$

$f_{1,1}(5) = 1 - 5 + 5^2 = 21$