8. Use the given expressions:

$A \uparrow A = \bar{A}$ ——— (1)

$AB = (A \uparrow B) \uparrow (A \uparrow B)$ ——— (2)

$A + B = (A \uparrow A) \uparrow (B \uparrow B)$ ——— (3)

Using: $A \uparrow A = \bar{A}$ ——— (1)

Substitute (1) into equation:

$\bar{A} \uparrow ((A \uparrow B) \uparrow (A \uparrow B)) \uparrow ((A \uparrow B) \uparrow (A \uparrow B))$

Substitute (2) into eq:

$A \uparrow ((AB) \uparrow (AB))$

If we do $B = A$, we get

$A + A = (A \uparrow A) \uparrow (A \uparrow A)$

So,

$AB \uparrow AB = \bar{A}$ $\because$ $\bar{\bar{A}} = A$

Apply double negation $(\bar{A} \uparrow \bar{A} = A)$

$\bar{A} \uparrow (AB \uparrow AB) = A$

Therefore,

$(A \uparrow A) \uparrow ((A \uparrow B) \uparrow (A \uparrow B)) \uparrow ((A \uparrow B) \uparrow (A \uparrow B)) = A$