NAND Form

Please do the following exercises individually.

NAND Form

Please find the NAND form of the following logical functions.

(A∧¬B) ∨ (¬A∧C) = …

(C∧D) ∨ (¬C∧¬D) = …

D ∨ (B∧C) = …

D ∨ (¬B∧D) ∨ (A∧B∧¬C) = …[1]

Compound NAND

Please prove that ¬(a∧b∧c) ↮ a|b|c.

[1] Two 3-input NAND gates are used to realize this truth function. There is no logical operator for this kind of operation. So ¬(a∧b) can be contracted to a|b but ¬(a∧b∧c) cannot. Please see the next exercise for a proof.