M260 1.1

P. Staley   Logical Equivalence Quiz

For statement variables p, q, r, tautology t, and contradiction c, find logical equivalents of the following:

p∧q ≡_____   p∨q ≡ _____

(p∧q)∧r ≡_____   (p∨q)∨r ≡_____

p∧(q∨r) ≡ _____   p∨(q∧r) ≡ _____

p∧t ≡_____   p∨c ≡ _____

p∨~p ≡ _____   p∧~p ≡ _____

~(~p) ≡ _____

p∧p ≡ _____   p∨p ≡ _____

~(p∧q) ≡ _____   ~(p∨q) ≡ _____

p∨t ≡ _____   p∧c ≡ _____

p∨(p∧q) ≡ _____   p∧(p∨q) ≡ _____

~t ≡ _____   ~c ≡ _____