

Worksheet 2

Computer Processors (COMP1212)

1. For each of the formula below
 - construct the truth table
 - use Karnaugh maps to construct a formula in DNF
 - use Karnaugh maps to construct a formula in CNF
 - apply logical equivalences to minimise the boolean expression
 - draw a logic diagram of a minimised expression
- (a) $(a \vee b) \wedge (a \vee c)$
 - (b) $\neg(\neg a \vee \neg b \vee \neg c)$
 - (c) $(a \vee b) \wedge (a \vee \neg c)$
 - (d) $(a \wedge \neg c) \vee (b \wedge c)$
 - (e) $a \vee (\neg b \wedge \neg c) \vee (a \wedge b)$
 - (f) $(a \wedge b \wedge c) \vee (a \wedge b \wedge \neg c)$