

# Ukeinnlevering 8

*IN1150 – Logiske metoder*

Høsten 2017

## 15.10

a)  $R^M = \{\langle 1, 1 \rangle \langle 1, 2 \rangle, \langle 2, 1 \rangle \langle 2, 2 \rangle\}$

b)  $R^M = \{\langle 1, 1 \rangle \langle 1, 2 \rangle\}$

c)  $R^M = \{\langle 1, 2 \rangle, \langle 2, 1 \rangle\}$

d)  $R^M = \{\langle 1, 2 \rangle, \langle 1, 1 \rangle, \langle 2, 2 \rangle\}$

## 15.14

a)  $R^M = \{\langle 1, 1 \rangle, \langle 2, 2 \rangle, \langle 3, 3 \rangle\}$

b)  $R^M = \{\langle 1, 1 \rangle\}$

c)  $R^M = \{\langle 1, 1 \rangle\}$

d)  $R^M = \{1, 2\}$

## 16.4

a) Usann

b) Sann

c) Usann

d) Sann

e) Sann

f) Usann

g) Usann

h) Sann

i) Sann

## 16.8

- $\exists x Px \Rightarrow \exists x Px \vee \exists x Qx$
- $\exists x Px \wedge \exists x Qx \Rightarrow \exists x Px$
- $\exists x Px \wedge \exists x Qx \Rightarrow \exists x Px \vee \exists x Qx$
- $\exists x (Px \wedge Qx) \Rightarrow \exists x Px$
- $\exists x (Px \wedge Qx) \Rightarrow \exists x Px \vee \exists x Qx$