

### Exam Notes:

for  $\nabla$  is  $\alpha \geq \gamma$ ?

if yes  $\rightarrow$  prune  
No  $\rightarrow$  continue

for  $\Delta$  is  $\beta \leq \gamma$ ?

if yes  $\rightarrow$  prune  
No  $\rightarrow$  continue

$$(a \Leftrightarrow b) \equiv (a \Rightarrow b) \wedge (b \Rightarrow a)$$

$$-(a \Rightarrow b) \equiv \neg a \vee b$$

$$-\neg(\neg a) \equiv a$$

demorgan's rule:

$$-\neg(a \vee b) \equiv \neg a \wedge \neg b$$

$$-\neg(a \wedge b) \equiv \neg a \vee \neg b$$

Distributivity  $\vee$  over  $\wedge$

$$\alpha \wedge (\beta \vee \gamma) = (\alpha \wedge \beta) \vee (\alpha \wedge \gamma)$$

Resolution rule of  
inference

$$\alpha \vee \beta, \neg \beta \vee \gamma$$

$$\alpha \vee \gamma$$

$$\text{ie } A \vee B \vee \neg C \vee D, \neg A \vee \neg E \vee F$$

$$B \vee \neg C \vee D \vee \neg E \vee F$$