## RE and TD Part 2

Consider 
$$\mathcal{E} = \{a, b\}$$

i.  $a/b = \longrightarrow \textcircled{1}$ 
 $a = \bigcirc \textcircled{2}$ 

ii.  $a(a/b) = \longrightarrow \textcircled{1}$ 
 $a = \bigcirc \textcircled{2}$ 

iii.  $a^* = \bigcirc \textcircled{2}$ 
 $a = \bigcirc \textcircled{3}$ 

iv.  $a^* = \bigcirc \textcircled{2}$ 
 $a^* = \bigcirc \textcircled{3}$ 
 $a^* = \bigcirc \textcircled{3}$ 

$$xiii.$$
  $a(a/b)a^* \rightarrow 1 \xrightarrow{a} 2 \xrightarrow{a} 3$ 

xiv. 
$$a(a/b)^*(a/b)^+ \rightarrow 0 \rightarrow 0 \rightarrow 0 \rightarrow 0$$

$$\Rightarrow a(a/b)^+ \rightarrow 0 \rightarrow 0 \rightarrow 0 \rightarrow 0$$

$$\Rightarrow a(a/b)^+ \rightarrow 0 \rightarrow 0 \rightarrow 0 \rightarrow 0$$

$$\times \vee$$
.  $a(ab/ba)b \rightarrow 1 \xrightarrow{a} 2 \xrightarrow{a} 3 \xrightarrow{b} 5 \xrightarrow{b} 7$