

## Identidades

$$1) \emptyset w = w \emptyset = \emptyset$$

$$2) \lambda w = w \lambda = w$$

$$3) \emptyset^* = \lambda$$

$$4) \lambda^* = \lambda$$

$$5) w \cup y = y \cup w$$

$$6) w \cup \emptyset = w$$

$$7) w \cup w = w$$

$$8) w^* w^* = w^*$$

$$9) (w^*)^* = w^*$$

$$10) w^* w = w w^* = w^+$$

## Identidades

$$11) w (x \cup y) = wx \cup wy$$

$$12) (x \cup y) w = xw \cup yw$$

$$13) (wy)^* w = w (yw)^*$$

$$\begin{aligned} 14) (w \cup y)^* &= (w^* \cup y)^* \\ &= w^* (w \cup y)^* \\ &= (w \cup yw^*)^* \\ &= (w^* y^*)^* \\ &= w^* (yw^*)^* \\ &= (w^* y)^* w^* \end{aligned}$$