

Regular Expression Identities

$$1 \quad \lambda.u = u.\lambda = u$$

$$2 \quad u \cup v = v \cup u$$

$$3 \quad u^* = (u^*)^*$$

$$4 \quad u.(v \cup w) = u.v \cup u.w$$

$$5 \quad (u \cup v).w = u.w \cup v.w$$

$$6 \quad (u.v)^*.u = u.(v.u)^*$$

$$7 \quad (u \cup v)^* = (u^* \cup v^*)^* = (u^*.v^*)^* = u^*. (u \cup v)^* = (u^*.v)^*.u^*$$