

$$- \boxed{F_0} - = \text{---}$$

$$- \boxed{F_1} - = - \boxed{H} - \boxed{H} - \boxed{S} - \boxed{H} - \boxed{H} - \boxed{S} - \boxed{S} -$$

$$- \boxed{F_2} - = - \boxed{H} - \boxed{H} - \boxed{S} - \boxed{S} - \boxed{H} - \boxed{H} - \boxed{S} -$$

$$\text{R10: } - \boxed{Z} - = - \boxed{H} - \boxed{H} - \boxed{S} - \boxed{S} - \boxed{H} - \boxed{H} - \boxed{S} - \quad \quad \quad =: - \boxed{F_2} -$$

$$\text{R11: } - \boxed{Z^2} - = - \boxed{H} - \boxed{H} - \boxed{S} - \boxed{H} - \boxed{H} - \boxed{S} - \boxed{S} - \quad \quad \quad =: - \boxed{F_1} -$$

$$\text{R12: } Z^3 = I$$

**Lem10** By definition **R10**, **R11** & **R12**, we have 26. (1)  $- \boxed{Z} - \boxed{F_0} - = - \boxed{F_2} -$

$$(2) - \boxed{Z} - \boxed{F_1} - = - \boxed{F_0} -$$

$$(3) - \boxed{Z} - \boxed{F_2} - = - \boxed{F_1} -$$

$$\text{Proof: 26.(1). LHS} := - \boxed{Z} - \stackrel{\text{R10}}{=} - \boxed{H} - \boxed{H} - \boxed{S} - \boxed{S} - \boxed{H} - \boxed{H} - \boxed{S} -$$

$$=: - \boxed{F_2} - = 26.(1). \text{ RHS.}$$

$$26.(2). \text{ LHS} := - \boxed{Z} - \boxed{H} - \boxed{H} - \boxed{S} - \boxed{H} - \boxed{H} - \boxed{S} - \boxed{S} - \stackrel{\text{R11}}{=}$$

$$- \boxed{Z} - \boxed{Z} - \boxed{Z} - \stackrel{\text{R12}}{=} I := - \boxed{F_0} - = 26.(2). \text{ RHS.}$$

$$26.(3). \text{ LHS} := - \boxed{Z} - \boxed{H} - \boxed{H} - \boxed{S} - \boxed{S} - \boxed{H} - \boxed{H} - \boxed{S} - \stackrel{\text{R10}}{=}$$

$$- \boxed{Z} - \boxed{Z} - \stackrel{\text{R11}}{=} - \boxed{F_1} - = 26.(3). \text{ RHS.}$$

