

multiplying $\frac{R(e_1(s))}{1+SRC}$ by $(SLI + \frac{R}{1+SRC})$

$$\frac{R(e_1(s))}{1+SRC} \times (SLI + \frac{R}{1+SRC})$$

numerator

$$\frac{R(e_1(s))}{1+SRC} \times SLI + \frac{R}{1+SRC} = \frac{R(e_1(s))(SLI)}{1+SRC} + \frac{R^2(e_1(s))(\frac{1}{1+SRC})}{1+SRC}$$

same denominator therefore \therefore

$$\frac{R^3(e_1(s))(SLI)(\frac{1}{1+SRC})}{1+SRC}$$

$$1+SRC \text{ cancel } \therefore = R^3(e_1(s))(SLI)$$

Denominator

$$(SLI + \frac{R}{1+SRC}) (SLI + \frac{R}{1+SRC}) = SLI^2 + 2(\frac{RSLI}{1+SRC}) + (\frac{R}{1+SRC})^2$$

collecting leaves this expression

$$\frac{R^3 e_1(s) SLI}{SLI^2 + 2(\frac{RSLI}{1+SRC}) + (\frac{R}{1+SRC})^2}$$