

Table 3.10-1 Equivalent Circuits for Series and Parallel Elements

Series resistors		
	$i = i_1 = i_2, v_1 = \frac{R_1}{R_1 + R_2} v, \text{ and } v_2 = \frac{R_2}{R_1 + R_2} v$	$R_s = R_1 + R_2 \text{ and } v = R_s i$
Parallel resistors		
	$v = v_1 = v_2, i_1 = \frac{R_2}{R_1 + R_2} i, \text{ and } i_2 = \frac{R_1}{R_1 + R_2} i$	$R_p = \frac{R_1 R_2}{R_1 + R_2} \text{ and } v = R_p i$
Series voltage sources		
	$i = i_1 = i_2 \text{ and } v = v_1 + v_2$	$v_s = v_1 + v_2$
Parallel current sources		
	$v = v_1 = v_2 \text{ and } i = i_1 + i_2$	$i_p = i_1 + i_2$