

$$\frac{V_1 + 6j}{2j} + \frac{V_1}{-cj} + \frac{V_1}{c} = 0$$

c: 4

Find  $V_1$  in cartesian coordinates, i.e., find  $a$  and  $b$ :

$$V_1 = a + bj$$

$$\frac{V_1 + 6j}{2j} + \frac{V_1}{-4j} + \frac{V_1}{4} = 0$$

$$\frac{2V_1 + 12j}{4j} + \frac{(-V_1)}{4j} + \frac{V_1 \cdot j}{4j} = 0$$

$$V_1 + jV_1 = -12j$$

$$V_1 = -\frac{12j}{1+j} \cdot \frac{1-j}{1-j} = -\frac{12(j+1)}{1+1} = -6(1+j)$$

$$\boxed{a = -6}$$

$$\boxed{b = -6}$$