HOMEWORK #1 prob 4 solution

Ex: Perform the following calculations, and write the answers with appropriate prefixes (such as μ, m, k, etc.) for engineering units:

a) $v = 5.6\ \text{mA} \cdot 0.5\ \text{k}\Omega$

Note: V = A·Ω

b) $R = 1.2\ \text{k}\Omega + 700\ \Omega$

Sol'n: a) The product of m and k is $10^0 = 1$. The product of A and Ω is V.

$$v = 5.6\ \text{mA} \cdot 0.5\ \text{k}\Omega = 2.8\ \text{V}$$

b) We may convert the 1.2 kΩ to 1200 Ω and add 700 Ω, or we may convert the 700 Ω to 0.7 kΩ and add 1.2 kΩ. Either approach is acceptable, although the latter yields a result that is already in appropriate engineering format.

$$R = 1.2\ \text{k}\Omega + 700\ \Omega = 1.9\ \text{k}\Omega$$