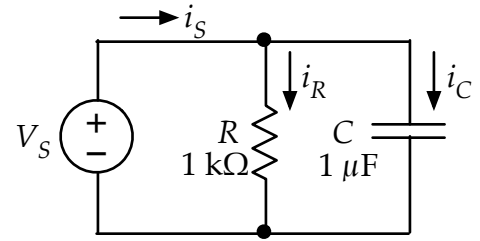In the circuit shown at right, the voltage source is sinusoidal with

$V_S(t) = V_m\cos(\omega t)$,

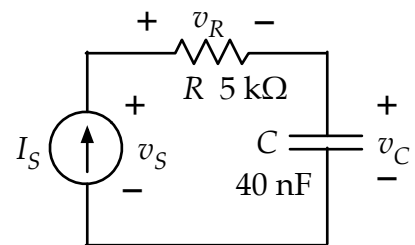where $V_m = 5$ V and $\omega = 1000$ rad/s. Write the expression for the total current flowing through the source.

$i_S =$ _____

In the circuit shown at right, the current source is sinusoidal with

$I_S(t) = I_m\sin(\omega t)$,

where $I_m = 2$ mA and $\omega = 5000$ rad/s. Write the expression for the total voltage across the source.

$v_S =$ _____

Write your answers — and whatever work will fit — on this sheet. Staple any sheets with additional work behind.