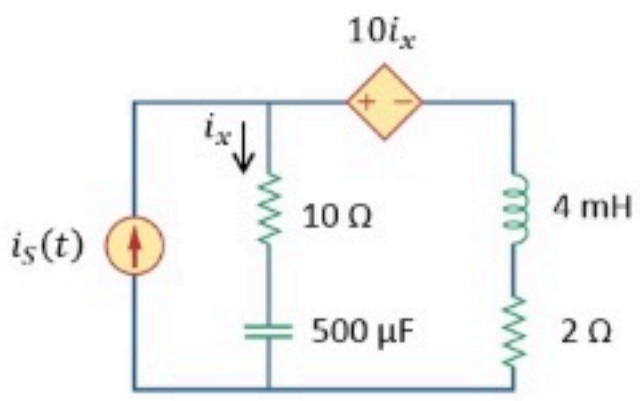
# PP AC power 007

Unlimited Attempts.

$$i_S(t) = 2 \cdot \cos\left(10^3 t + \frac{\pi}{4}\right) \text{A}$$

Find the complex power $\mathbf{S_1} = a_1 + b_1 j$ supplied by the source $i_S$.
Find the complex power $\mathbf{S_2} = a_2 + b_2 j$ received by the 10 Ω resistor.
Find the complex power $\mathbf{S_3} = a_3 + b_3 j$ received by the 2 Ω resistor.
Find the complex power $\mathbf{S_4} = a_4 + b_4 j$ received by the CCVS.
Find the complex power $\mathbf{S_5} = a_5 + b_5 j$ received by the inductor.
Find the complex power $\mathbf{S_6} = a_6 + b_6 j$ received by the capacitor.




Given Variables:

. : . .

Calculate the following:

a1 (W) :

32 ✓

b1 (VAR) :

4 ✓

a2 (W) :

50 ✓

b2 (VAR) :

0 ✓

a3 (W) :

2 ✓

b3 (VAR) :

0 ✓

a4 (W) :

-20 ✓

b4 (VAR) :

10 ✓

a5 (W) :

0 ✓

b5 (VAR) :

4 ✓

a6 (W) :

0 ✓

b6 (VAR) :

-10 ✓

Hint: Keep Is algebraic.