

12.19 Let the voltage and current at the terminals of a certain ac port be $v = 120 \cos(\omega t + 30^\circ)$ V, and $i = 5 \sin \omega t$ A. Assuming the passive sign convention, find the real power and the reactive power. Is the port delivering or absorbing average power? Reactive power?

```
clc, clear, close all
format short g

mvf = 120;
avf = 30;

If = 5;

vf = mvf*(cosd(avf)+j*sind(avf))

vf =
    103.92 +    60i
```

```
Ifrms = If/sqrt(2)

Ifrms =
    3.5355
```

```
s = vf*If*0.5 %potencia compleja

s =
    259.81 +    150i
```

```
z1 = vf/If

z1 =
    20.785 +    12i
```

vemos que **la potencia real disipada es de 259,81 W y la reactiva 150 VAR** lo verificamos en el simulador

