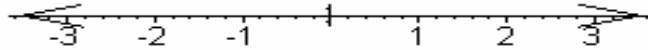


a) a hibahely fázisáramai

```
> with (plots):
a1 := arrow(<0,0>, shape=arrow):
a2 := arrow(<-3.52,0>, shape=arrow):
a3 := arrow(<3.52,0>, shape=arrow):
display(a1, a2, a3);
```



b) A hibahely fázis és vonali feszültségei

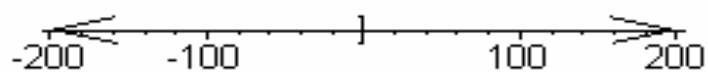
Fázis feszültségek:

```
>with (plots):
a1 := arrow(<132,0>, shape=arrow):
a2 := arrow(<-66,0>, shape=arrow):
a3 := arrow(<-66,0>, shape=arrow):
display(a1, a2, a3);
```



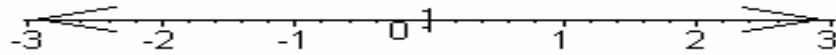
Vonali feszültségek:

```
>with (plots):
a1 := arrow(<198,0>, shape=arrow):
a2 := arrow(<0,0>, shape=arrow):
a3 := arrow(<-198,0>, shape=arrow):
display(a1, a2, a3);
```



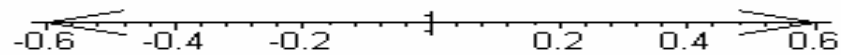
c) a vezetéken folyó fázisáramok

```
>with (plots):
a1 := arrow(<0,0>, shape=arrow):
a2 := arrow(<-2.92,0>, shape=arrow):
a3 := arrow(<2.92,0>, shape=arrow):
display(a1, a2, a3);
```



d) a T transzformátoron a B gyűjtősín felé folyó fázisáramok

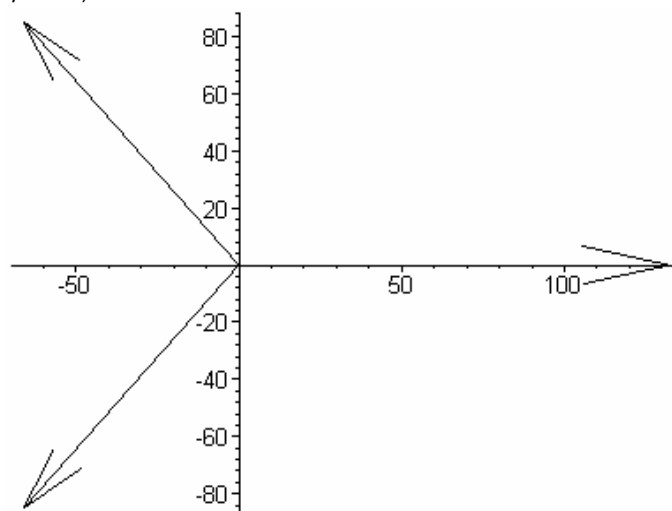
```
>with (plots):
a1 := arrow(<0,0>, shape=arrow):
a2 := arrow(<-0.6,0>, shape=arrow):
a3 := arrow(<0.6,0>, shape=arrow):
display(a1, a2, a3);
```



e) a H gyűjtősín fázis és vonali feszültségei

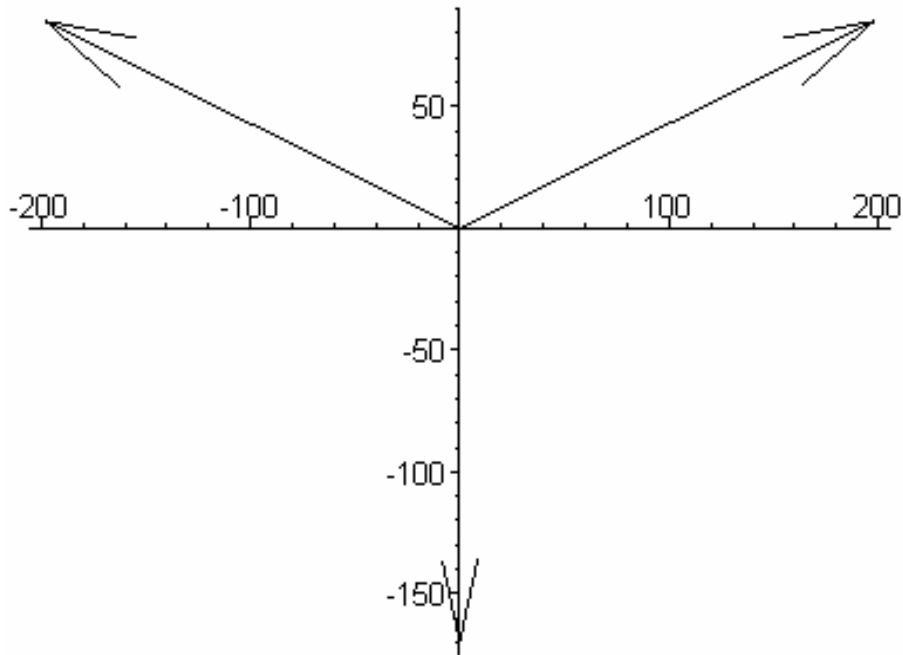
Fázis feszültségek:

```
>with (plots):
a1 := arrow(<132,0>, shape=arrow):
a2 := arrow(<-66,-84.95>, shape=arrow):
a3 := arrow(<-66,84.95>, shape=arrow):
display(a1, a2, a3);
```



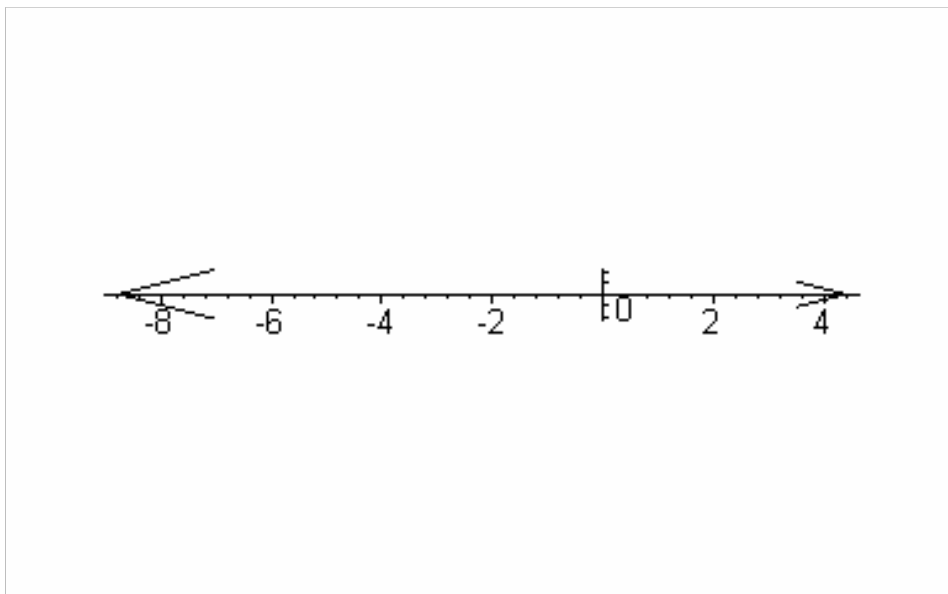
Vonali feszültségek:

```
>with (plots):
a1 := arrow(<198,84.95>, shape=arrow):
a2 := arrow(<0,-169.9>, shape=arrow):
a3 := arrow(<-198,84.95>, shape=arrow):
display(a1, a2, a3);
```



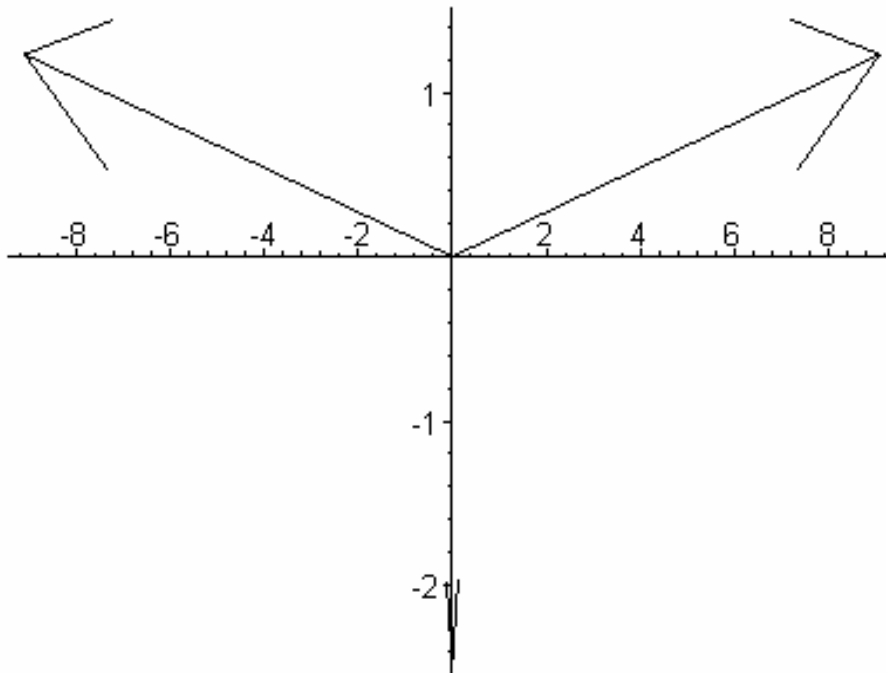
f) a generátor állórészében folyó fázisáramok

```
>with (plots):
a1 := arrow(<4.39,0>, shape=arrow):
a2 := arrow(<-8.77,0>, shape=arrow):
a3 := arrow(<4.39,0>, shape=arrow):
display(a1, a2, a3);
```



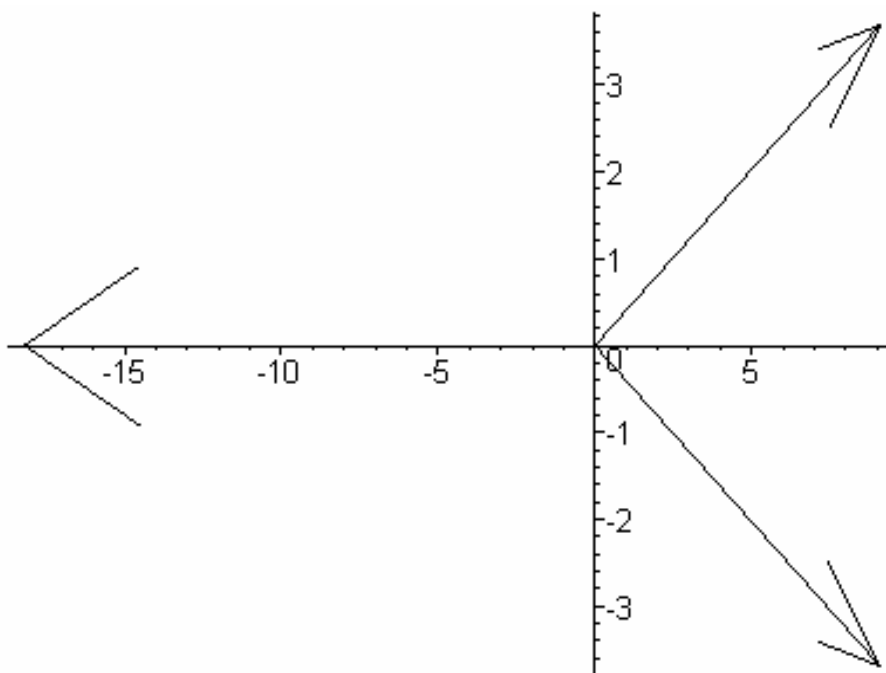
g) az A gyűjtősín (generátor kapocs)fázis és vonali feszültségei
Fázis feszültségek:

```
>with (plots):
a1 := arrow(<9.09,1.23>, shape=arrow):
a2 := arrow(<0,-2.46>, shape=arrow):
a3 := arrow(<-9.09,1.23>, shape=arrow):
display(a1, a2, a3);
```



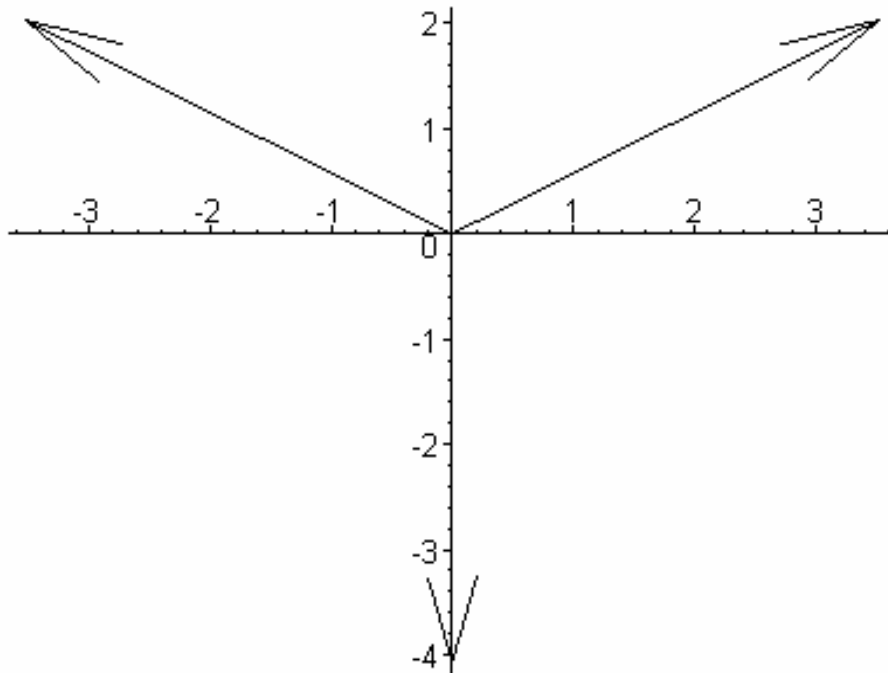
Vonali feszültségek:

```
>with (plots):
a1 := arrow(<9.09,3.69>, shape=arrow):
a2 := arrow(<9.09,-3.69>, shape=arrow):
a3 := arrow(<-18.19,0>, shape=arrow):
display(a1, a2, a3);
```



a) a hibahely fázisáramai

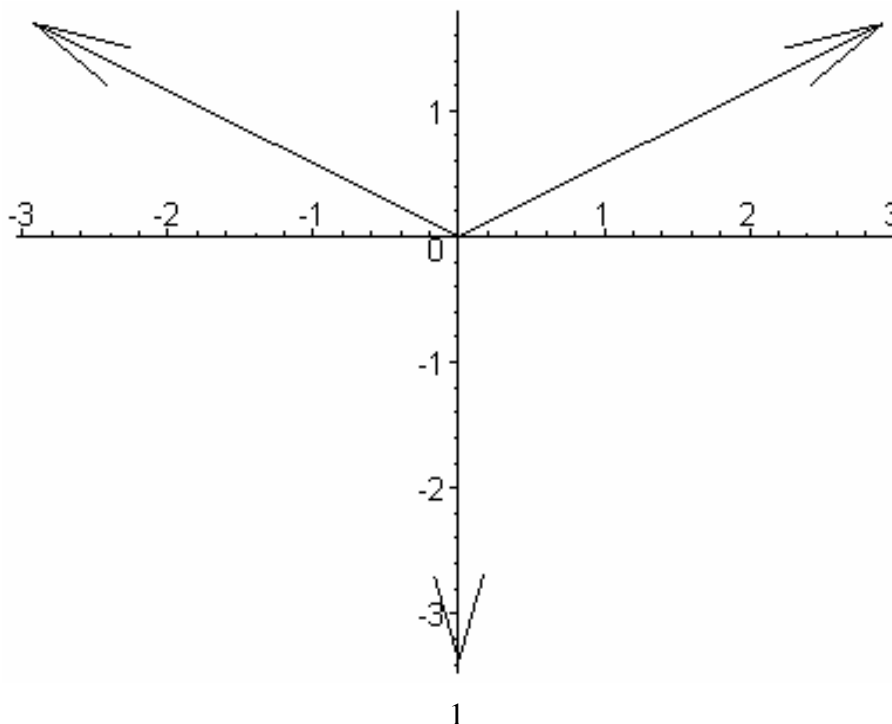
```
>with (plots):
a1 := arrow(<0,-4.07>, shape=arrow):
a2 := arrow(<-3.52,2.03>, shape=arrow):
a3 := arrow(<3.52,2.03>, shape=arrow):
display(a1, a2, a3);
```



b) a hibahely feszültségei
Minden feszültség nulla.

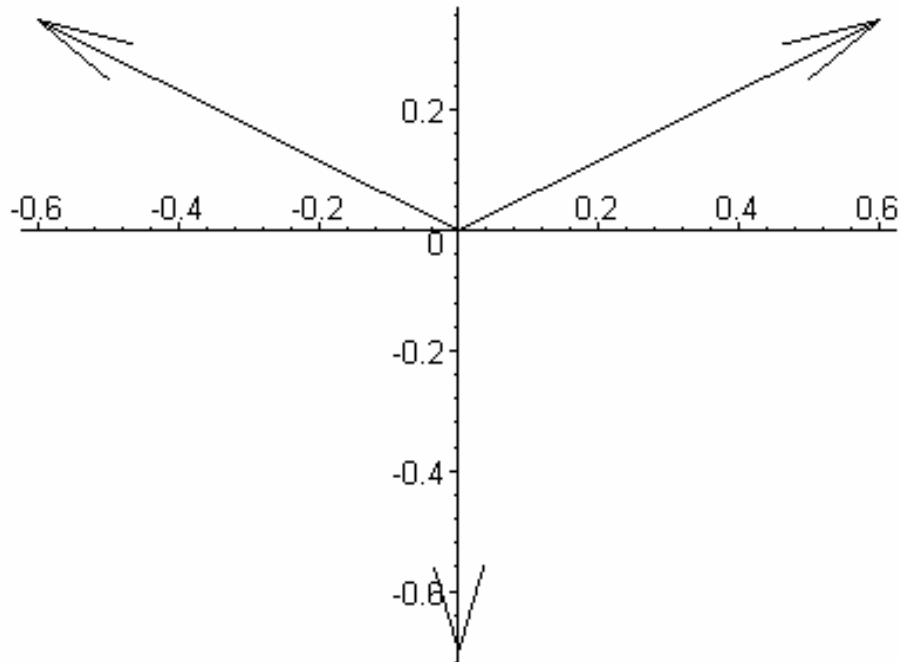
c) a vezetéken folyó fázisáramok

```
>with (plots):
a1 := arrow(<0,-3.37>, shape=arrow):
a2 := arrow(<-2.92,1.69>, shape=arrow):
a3 := arrow(<2.92,1.69>, shape=arrow):
display(a1, a2, a3);
```



d) a T transzformátoron a B gyűjtősín felé folyó fázisáramok

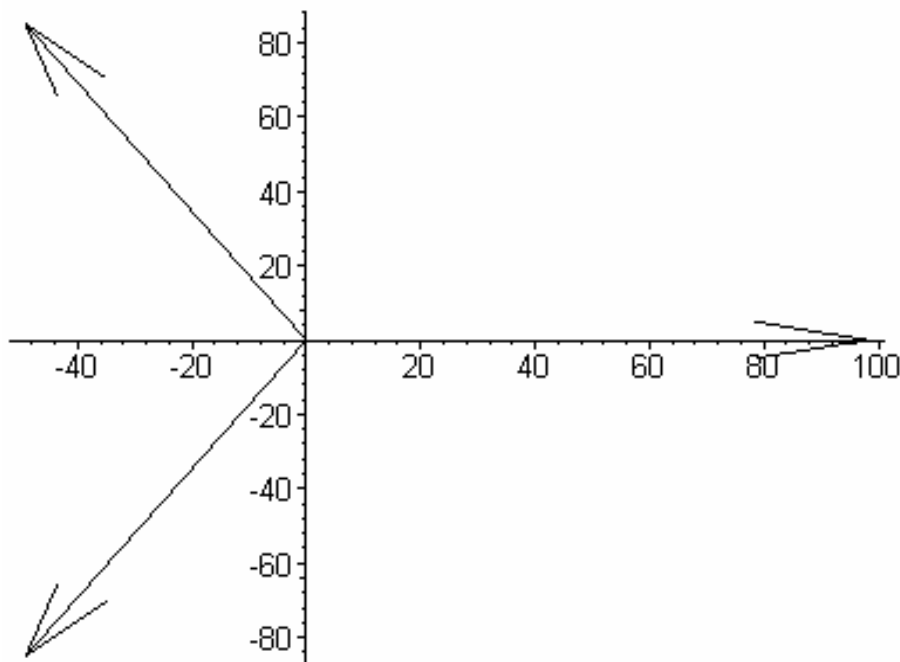
```
>with (plots):
a1 := arrow(<0,-0.7>, shape=arrow):
a2 := arrow(<-0.6,0.35>, shape=arrow):
a3 := arrow(<0.6,0.35>, shape=arrow):
display(a1, a2, a3);
```



e) a H gyűjtősín fázis és vonali feszültségei

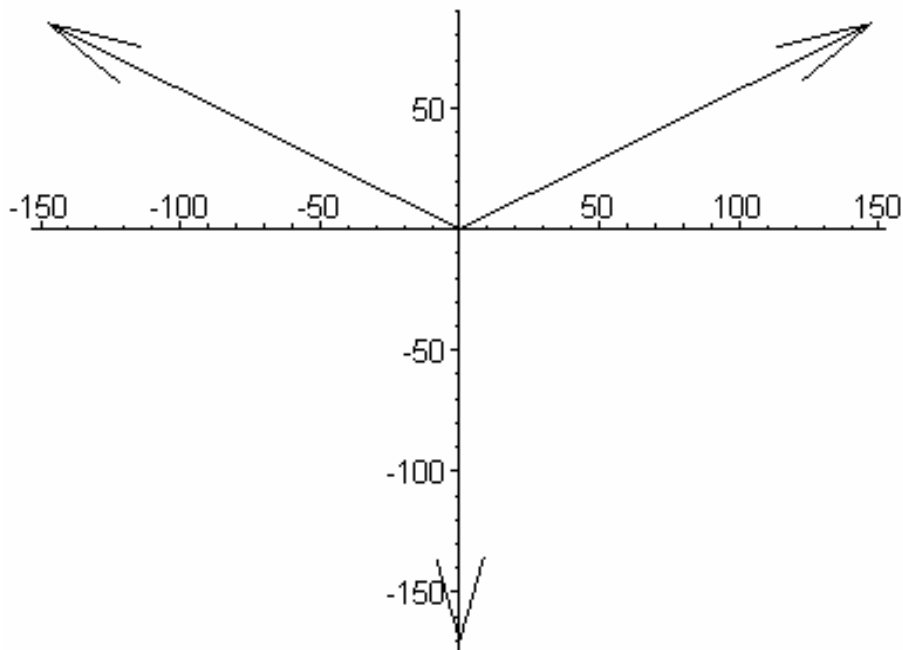
Fázis feszültségek:

```
>with (plots):
a1 := arrow(<98.1,0>, shape=arrow):
a2 := arrow(<-49.04,-84.95>, shape=arrow):
a3 := arrow(<-49.04,84.95>, shape=arrow):
display(a1, a2, a3);
```



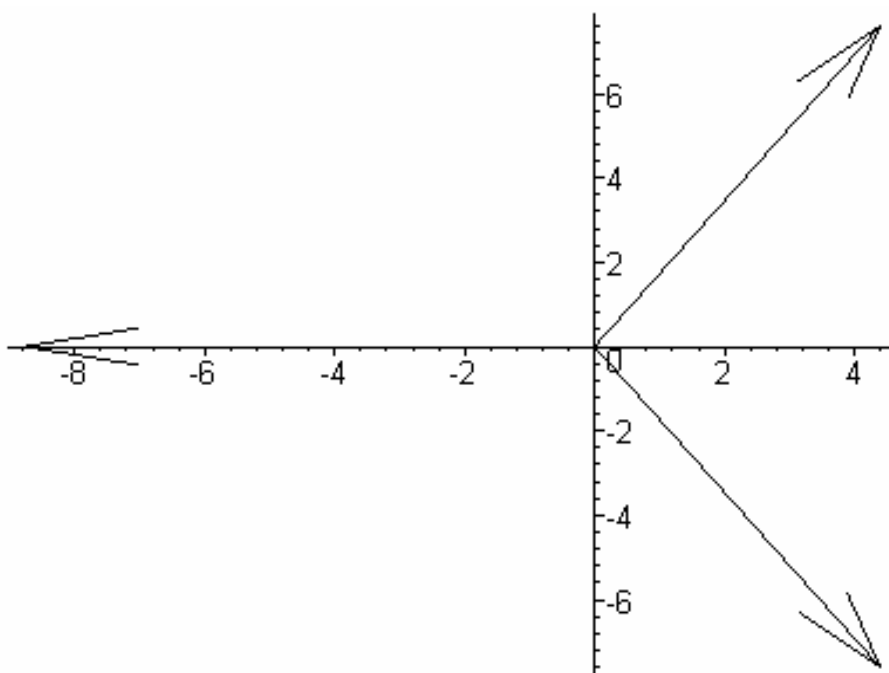
Vonali feszültségek:

```
>with (plots):
a1 := arrow(<147.1,84.9>, shape=arrow):
a2 := arrow(<0,-169.9>, shape=arrow):
a3 := arrow(<-147.1,84.9>, shape=arrow):
display(a1, a2, a3);
```



f) a generátor állórészében folyó fázisáramok

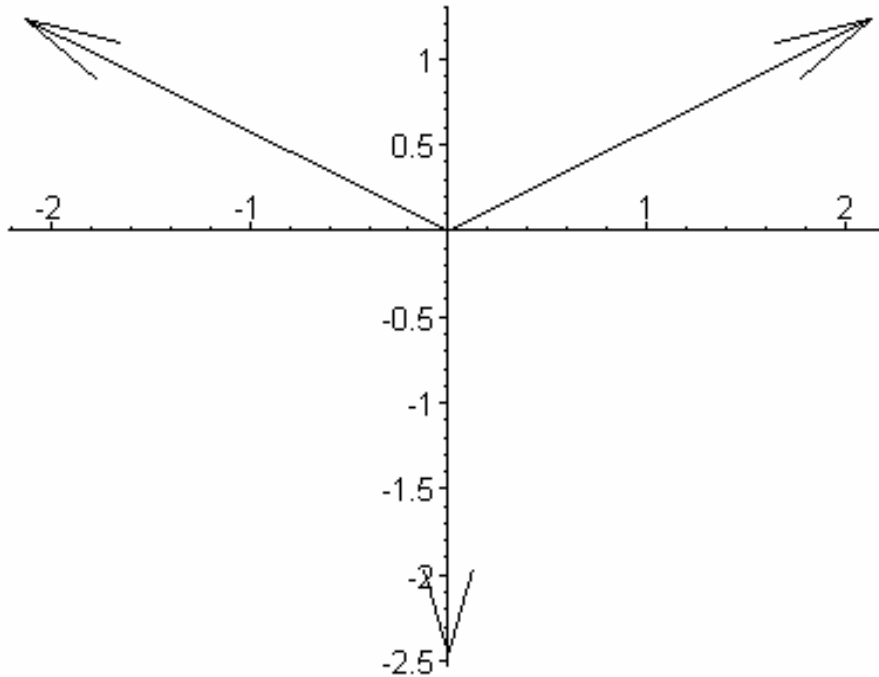
```
>with (plots):
a1 := arrow(<4.39,-7.6>, shape=arrow):
a2 := arrow(<-8.77,0>, shape=arrow):
a3 := arrow(<4.39,7.6>, shape=arrow):
display(a1, a2, a3);
```



g) az A gyűjtősín (generátor kapocs)fázis és vonali feszültségei

Fázis feszültségek:

```
>with (plots):
a1 := arrow(<2.13,1.23>, shape=arrow):
a2 := arrow(<0,-2.46>, shape=arrow):
a3 := arrow(<-2.13,1.23>, shape=arrow):
display(a1, a2, a3);
```



Vonali feszültségek:

```
>with (plots):
a1 := arrow(<2.13,3.69>, shape=arrow):
a2 := arrow(<2.13,-3.69>, shape=arrow):
a3 := arrow(<-4.26,0>, shape=arrow):
display(a1, a2, a3);
```

