

```

> restart:
> with(linalg):with(plots):with(LinearAlgebra[Modular]):with
(orthopoly):
> PP:=taylor(exp(2*z*lambda+3*lambda^2),lambda=0,72):
> for n from 1 to 70 do phi[n]:=coeff(PP,lambda,n); od:n:='n':
> Q:=(m,n)->det(Wronskian([seq(phi[3*j-2],j=1..m+n-1),seq(phi[3*
k-1],k=1..n-1)],z));

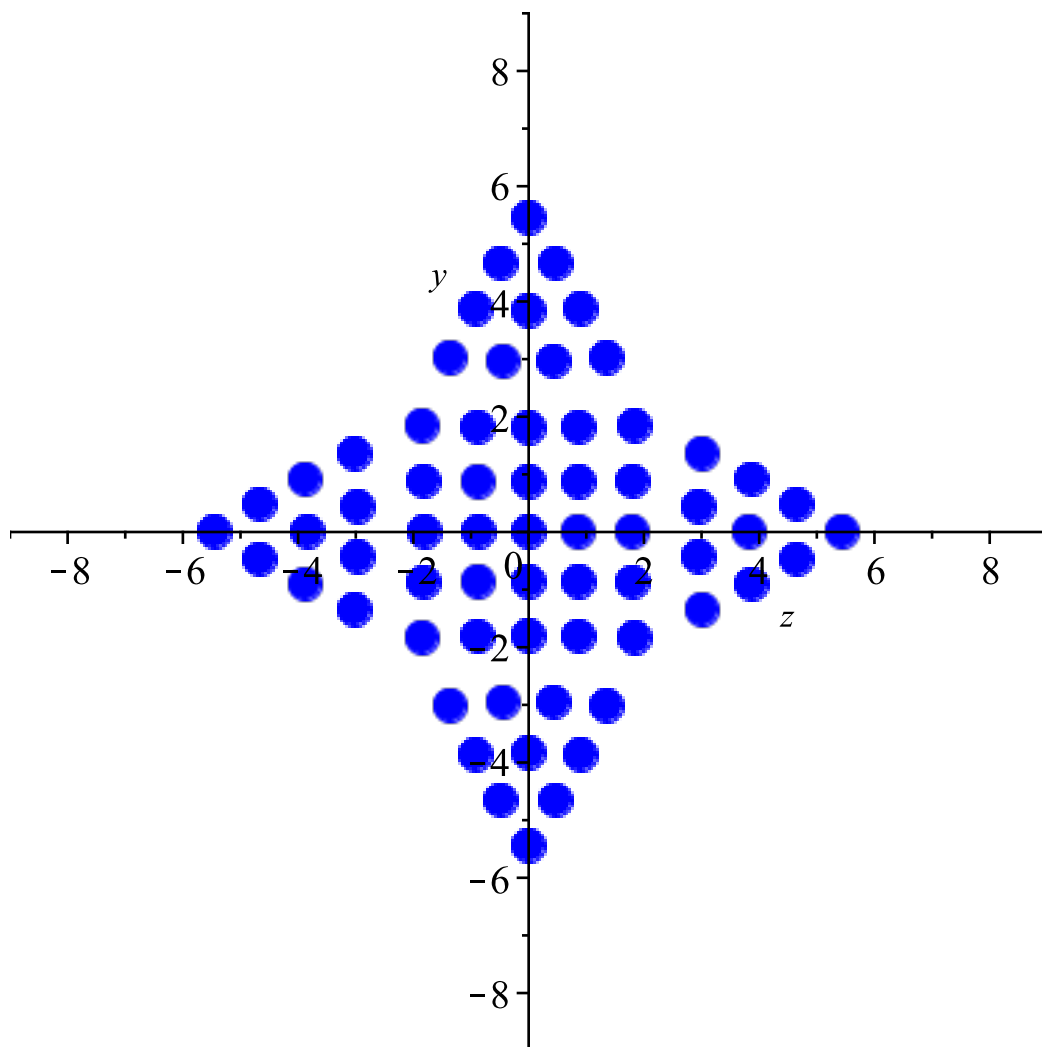
$$Q := (m, n) \rightarrow \text{linalg:-det}\left(\text{linalg:-Wronskian}\left(\left[\text{seq}\left(\phi_{3j-2}, j=1..m+n-1\right), \text{seq}\left(\phi_{3k-1}, k=1..n-1\right)\right], z\right)\right) \quad (1)$$


```

```

> Q(5,5):
> RootOf(% , z):J2:=evalf(allvalues(%)):
> complexplot([J2],z=-9..9,y=-9..9,style=point,symbol=solidcircle,
color=blue,symbolsize=25);

```



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```

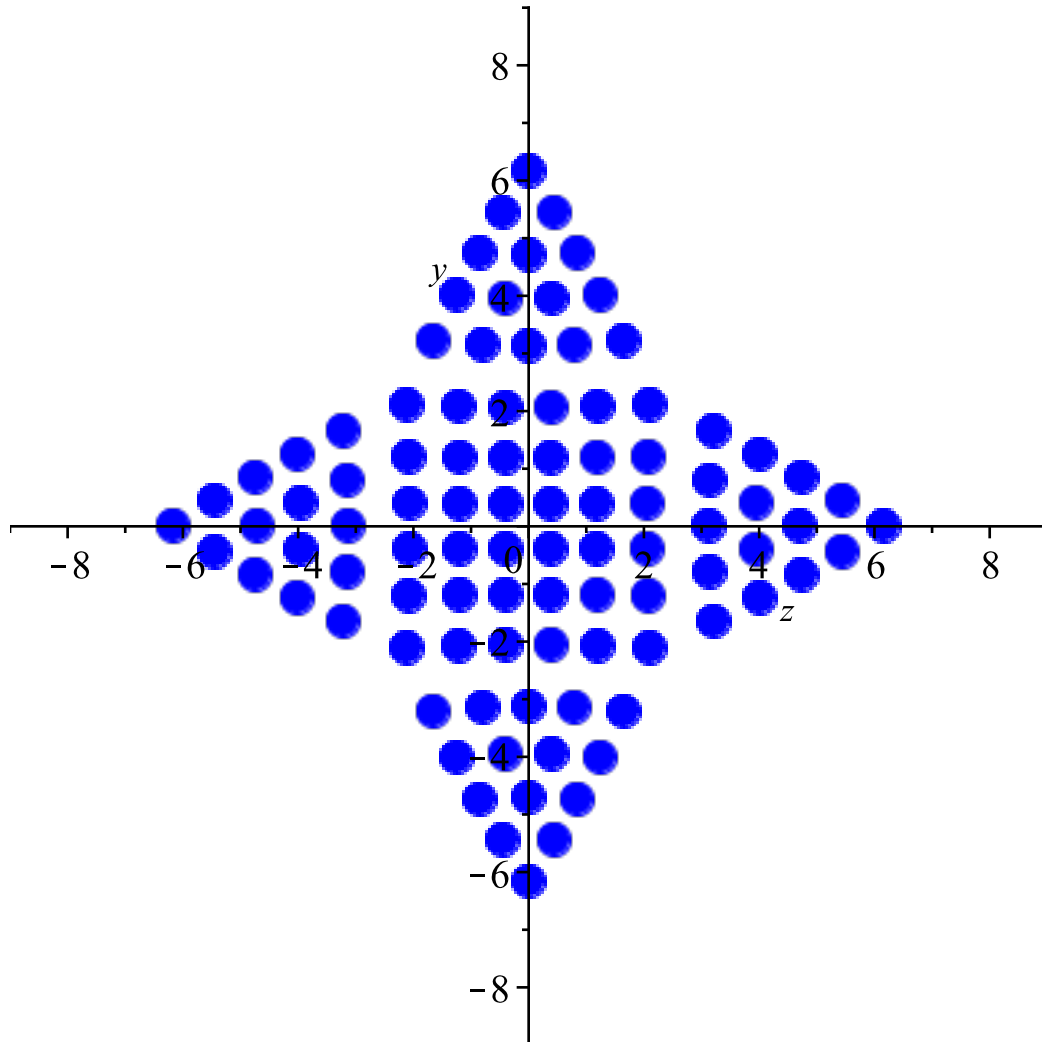
```
k-1],k=1..n-1)],z));
```

```
Q := (m,n) → linalg:-det(linalg:-Wronskian([seq(ϕ3j-2,j=1..m+n-1),seq(ϕ3k-1,k=1  
..n-1)],z)) (2)
```

```
> Q(6,6):
```

```
> RootOf(%,z):J2:=evalf(allvalues(%)):
```

```
> complexplot([J2],z=-9..9,y=-9..9,style=point,symbol=solidcircle,  
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```
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```

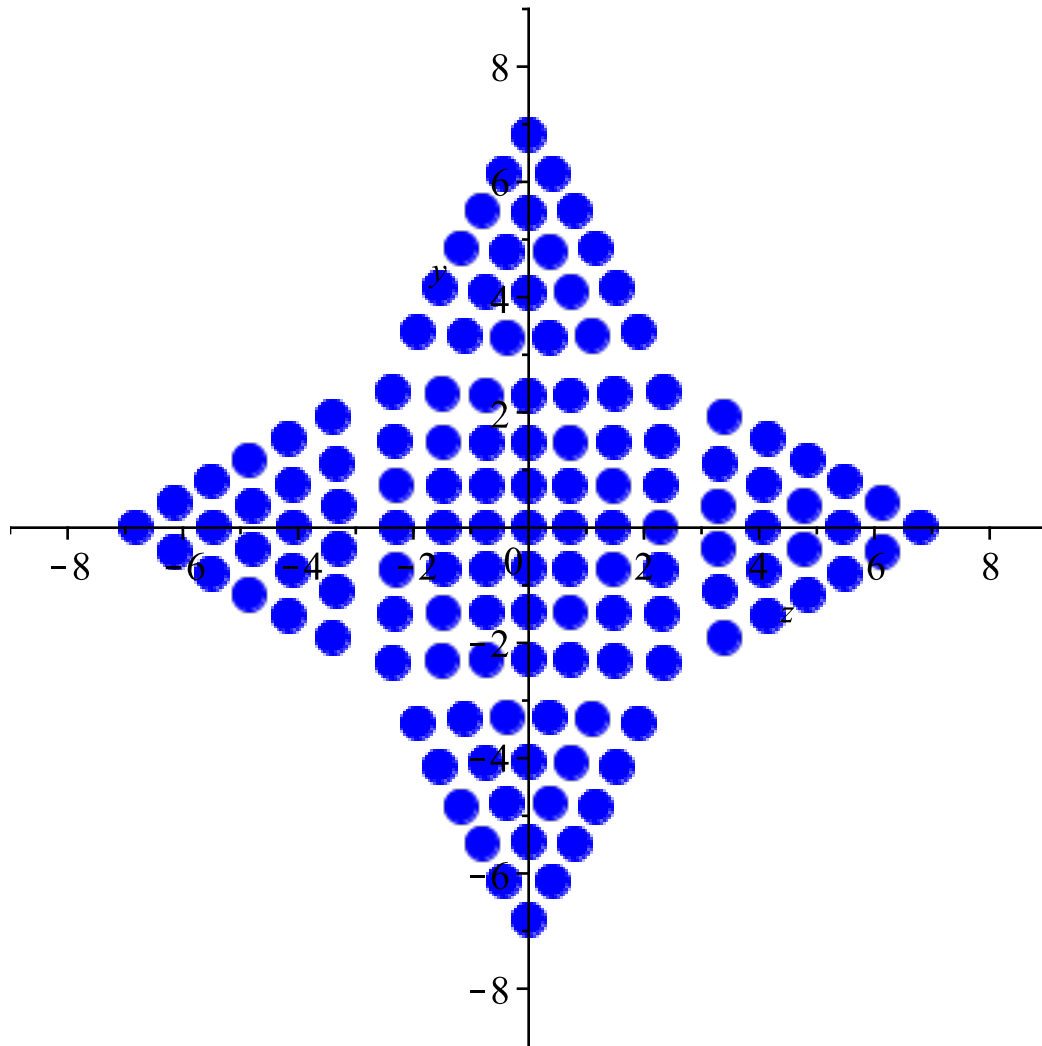
```
> Q:=(m,n)→det(Wronskian([seq(phi[3*j-2],j=1..m+n-1),seq(phi[3*  
k-1],k=1..n-1)],z));
```

```
Q := (m,n) → linalg:-det(linalg:-Wronskian([seq(ϕ3j-2,j=1..m+n-1),seq(ϕ3k-1,k=1  
..n-1)],z)) (3)
```

```
> Q(7,7):
```

```
> RootOf(%,z):J2:=evalf(allvalues(%)):
```

```
> complexplot([J2], z=-9..9, y=-9..9, style=point, symbol=solidcircle,
color=blue, symbolsize=25);
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```
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```
> for n from 1 to 70 do phi[n]:=coeff(PP, lambda, n); od:n:='n':
```

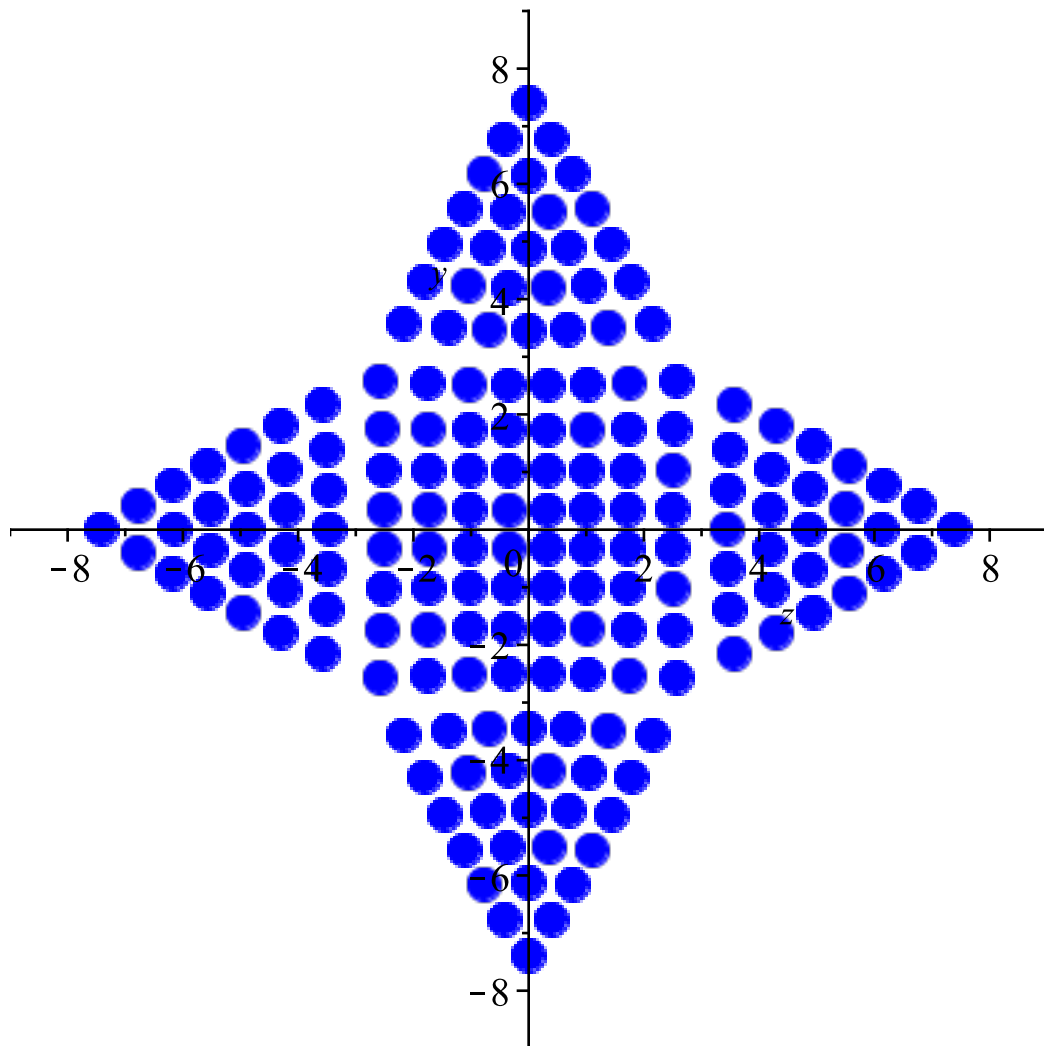
```
> Q:=(m,n)->det(Wronskian([seq(phi[3*j-2], j=1..m+n-1), seq(phi[3*
k-1], k=1..n-1)], z));
```

$Q := (m, n) \rightarrow \text{linalg:-det}\left(\text{linalg:-Wronskian}\left(\left[\text{seq}\left(\phi_{3j-2}, j=1..m+n-1\right), \text{seq}\left(\phi_{3k-1}, k=1..n-1\right)\right], z\right)\right)$ (4)

```
> Q(8,8):
```

```
> RootOf(%, z):J2:=evalf(allvalues(%)):
```

```
> complexplot([J2], z=-9..9, y=-9..9, style=point, symbol=solidcircle,
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```



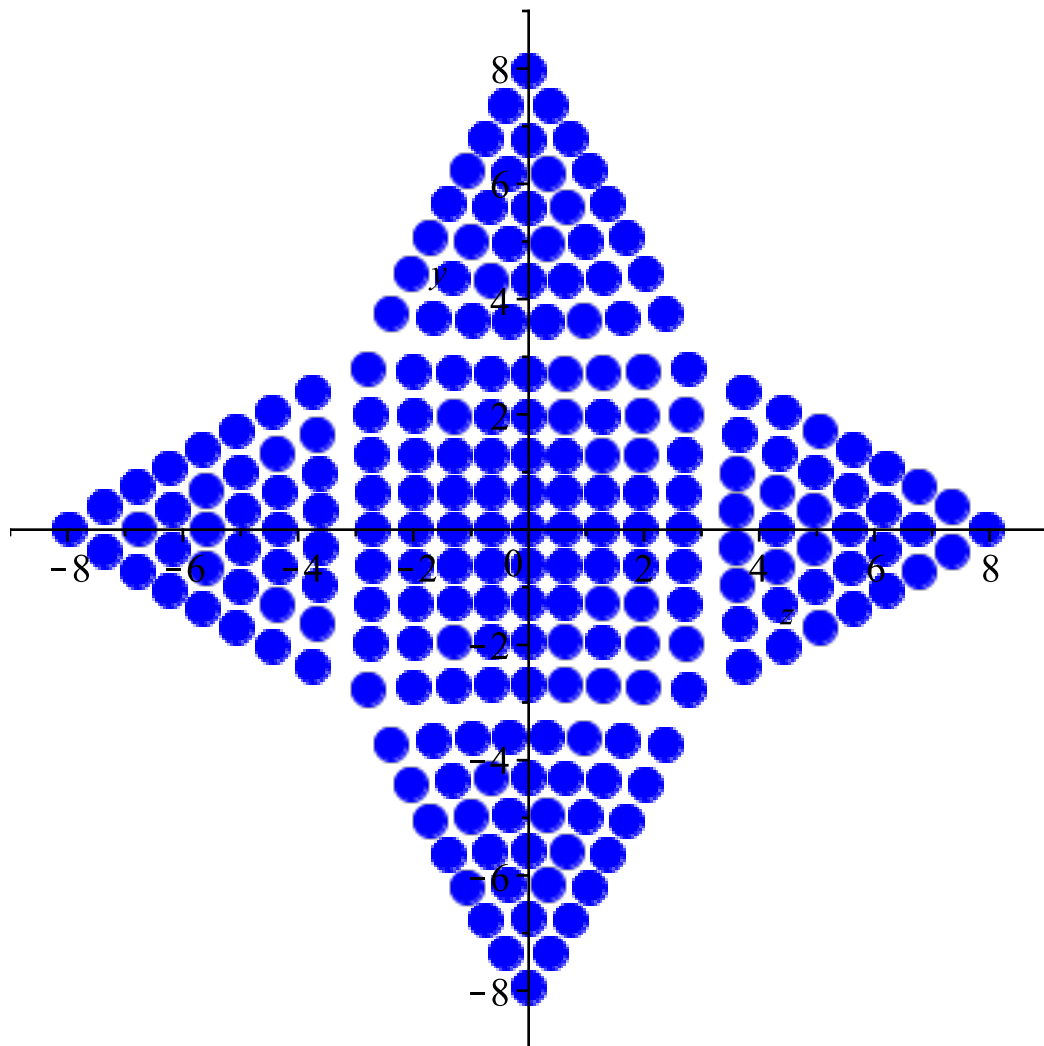
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  k-1],k=1..n-1)],z));

$$Q := (m, n) \rightarrow \text{linalg:-det}\left(\text{linalg:-Wronskian}\left(\left[\text{seq}\left(\phi_{3j-2}, j=1..m+n-1\right), \text{seq}\left(\phi_{3k-1}, k=1..n-1\right)\right], z\right)\right) \quad (5)$$

> Q(9,9):
> RootOf(%,z):J2:=evalf(allvalues(%)):
> complexplot([J2],z=-9..9,y=-9..9,style=point,symbol=solidcircle,
  color=blue,symbolsize=25);

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  k-1],k=1..n-1)],z));

$$Q := (m, n) \rightarrow \text{linalg:-det}\left(\text{linalg:-Wronskian}\left(\left[\text{seq}\left(\phi_{3j-2}, j=1..m+n-1\right), \text{seq}\left(\phi_{3k-1}, k=1..n-1\right)\right], z\right)\right) \quad (6)$$

> Q(10,10):
> RootOf(%,z):J2:=evalf(allvalues(%)):
> complexplot([J2],z=-9..9,y=-9..9,style=point,symbol=solidcircle,
  color=blue,symbolsize=25);

```

