```
In[5]:= s[r_] := 1 - r^2

In[15]:= f[r_] := (1 / Sqrt[s[r]]) *
           Exp[(u * v) * r / s[r] - ((u^2 + v^2) / 2) * r^2 / s[r]] - 1

In[16]:= f[r]
```

Out[16]= $-1 + \frac{e^{\frac{r\,u\,v}{1-r^2} - \frac{r^2\,(u^2+v^2)}{2\,(1-r^2)}}}{\sqrt{1-r^2}}$

```
In[4]:= (* would plot it if I knew values typical for u,v *)

In[23]:= brad5 = Series[f[r], {r, 0, 5}]
```

Out[23]=

$$u\,v\,r + \left(\frac{1}{2} + \frac{1}{2}\left(u^2 v^2 + 2\left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) r^2 + \left(\frac{u\,v}{2} + \frac{1}{3}\left(3\,u\,v + 2\,u\,v\left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2}\,u\,v\left(u^2 v^2 + 2\left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) r^3 + \left(\frac{3}{8} + \frac{1}{4}\left(u^2 v^2 + 2\left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \frac{1}{4}\left(3\,u^2 v^2 + 4\left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\left(u^2 v^2 + 2\left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \frac{1}{3}\,u\,v\left(3\,u\,v + 2\,u\,v\left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2}\,u\,v\left(u^2 v^2 + 2\left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right) r^4 + \left(\frac{3\,u\,v}{8} + \frac{1}{6}\left(3\,u\,v + 2\,u\,v\left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2}\,u\,v\left(u^2 v^2 + 2\left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) + \frac{1}{5}\left(5\,u\,v + 4\,u\,v\left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2}\,u\,v\left(u^2 v^2 + 2\left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \frac{2}{3}\left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\left(3\,u\,v + 2\,u\,v\left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2}\,u\,v\left(u^2 v^2 + 2\left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) + \frac{1}{4}\,u\,v\left(3\,u^2 v^2 + 4\left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\left(u^2 v^2 + 2\left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \frac{1}{3}\,u\,v\left(3\,u\,v + 2\,u\,v\left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2}\,u\,v\left(u^2 v^2 + 2\left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right)\right) r^5 + O[r]^6$$

```
In[18]:= Series[f[r], {r, 0, 1}]
```

Out[18]= $u\,v\,r + O[r]^2$

```
In[19]:= Series[f[r], {r, 0, 2}]
```

Out[19]= $u\,v\,r + \left(\frac{1}{2} - \frac{u^2}{2} - \frac{v^2}{2} + \frac{u^2 v^2}{2}\right) r^2 + O[r]^3$

```
In[20]:= SeriesCoefficient[Series[f[r], {r, 0, 5}], 2]
```

Out[20]= $\frac{1}{2} + \frac{1}{2}\left(u^2 v^2 + 2\left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)$

```
In[21]:= FullSimplify[%]
```

Out[21]= $\frac{1}{2}\,(-1 + u^2)\,(-1 + v^2)$

```
In[22]:= (* matches Efron *)
```

In[24]:= **SeriesCoefficient[brad5, 2]**

Out[24]= $\frac{1}{2} + \frac{1}{2}\left(u^2 v^2 + 2\left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)$

In[25]:= **SeriesCoefficient[brad5, 3]**

Out[25]= $\frac{u\,v}{2} + \frac{1}{3}\left(3\,u\,v + 2\,u\,v\left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2}\,u\,v\left(u^2 v^2 + 2\left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)$

In[29]:= **FullSimplify[%25]**

Out[29]= $\frac{1}{6}\,u\,(-3 + u^2)\,v\,(-3 + v^2)$

In[30]:= **SeriesCoefficient[brad5, 4]**

Out[30]= $\frac{3}{8} + \frac{1}{4}\left(u^2 v^2 + 2\left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \frac{1}{4}\left(3\,u^2 v^2 + 4\left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\left(u^2 v^2 + 2\left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \frac{1}{3}\,u\,v\left(3\,u\,v + 2\,u\,v\left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2}\,u\,v\left(u^2 v^2 + 2\left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)$

In[31]:= **FullSimplify[%]**

Out[31]= $\frac{1}{24}\,(3 - 6\,u^2 + u^4)\,(3 - 6\,v^2 + v^4)$

In[32]:= **SeriesCoefficient[brad5, 5]**

Out[32]= $\frac{3\,u\,v}{8} + \frac{1}{6}\left(3\,u\,v + 2\,u\,v\left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2}\,u\,v\left(u^2 v^2 + 2\left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) + \frac{1}{5}\left(5\,u\,v + 4\,u\,v\left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2}\,u\,v\left(u^2 v^2 + 2\left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \frac{2}{3}\left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\left(3\,u\,v + 2\,u\,v\left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2}\,u\,v\left(u^2 v^2 + 2\left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) + \frac{1}{4}\,u\,v\left(3\,u^2 v^2 + 4\left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\left(u^2 v^2 + 2\left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \frac{1}{3}\,u\,v\left(3\,u\,v + 2\,u\,v\left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2}\,u\,v\left(u^2 v^2 + 2\left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right)$

In[33]:= **FullSimplify[%]**

Out[33]= $\frac{1}{120}\,u\,(15 - 10\,u^2 + u^4)\,v\,(15 - 10\,v^2 + v^4)$

```
In[34]:= TableForm[Table[HermiteH[n, r], {n, 5}]]
```

Out[34]//TableForm=

$$2\,r$$
$$-2+4\,r^2$$
$$-12\,r+8\,r^3$$
$$12-48\,r^2+16\,r^4$$
$$120\,r-160\,r^3+32\,r^5$$

```
In[36]:= (* Sunday part 2  *)
```

```
In[48]:= Plot[Evaluate[{f[r], Normal[brad5]}], {r, 0, .99}] /. {u → 2, v → 2}
```

```
In[50]:= Plot[Normal[brad5], {r, 0, .5}] /. {u → .2, v → .2}
```

```
In[47]:= f[.5] /. {u → 1, v → 1}
```

Out[47]= 0.611514

```
In[52]:= Normal[brad5] /. {r → .5, u → 1, v → 1}
```

Out[52]= 0.603125

```
In[67]:= Normal[brad10] /. {r → .5, u → 1, v → 1}
```

Out[67]= 0.611391

```
In[53]:= brad10 = Series[f[r], {r, 0, 10}]
```

Out[53]=

$$\begin{aligned}
&u\,v\,r+\left(\frac{1}{2}+\frac{1}{2}\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)r^2+\\
&\left(\frac{u\,v}{2}+\frac{1}{3}\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)r^3+\\
&\left(\frac{3}{8}+\frac{1}{4}\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.\\
&\quad\frac{1}{4}\left(3\,u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.\\
&\quad\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)r^4+\\
&\left(\frac{3\,u\,v}{8}+\frac{1}{6}\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+\right.\\
&\quad\frac{1}{5}\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.\\
&\quad\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+\\
&\quad\frac{1}{4}\,u\,v\left(3\,u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.\\
&\quad\left.\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)r^5+\\
&\left(\frac{5}{16}+\frac{3}{16}\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\frac{1}{8}\left(3\,u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+\right.\right.\right.\\
&\quad\left.\left.\left.2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)+\\
&\quad\frac{1}{6}\left(5\,u^2v^2+6\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.
\end{aligned}$$

$$u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{1}{5}\,u\,v\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\left.\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)\right)\right)\,r^6+$$
$$\left(\frac{5\,u\,v}{16}+\frac{1}{8}\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+\right.$$
$$\frac{1}{10}\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)+$$
$$\frac{1}{7}\left(7\,u\,v+6\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{5}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{4}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{3}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{2}{5}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)+$$
$$\frac{1}{6}\,u\,v\left(5\,u^2\,v^2+6\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{1}{5}\,u\,v\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\left.\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)\right)\right)\,r^7+$$
$$\left(\frac{35}{128}+\frac{5}{32}\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\frac{3}{32}\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\right.\right.$$

$$\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+$$
$$\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\Bigg)+$$
$$\frac{1}{12}\left(5\,u^2 v^2+6\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u^2 v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\Bigg)+$$
$$\frac{1}{5}\,u\,v\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2 v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)+$$
$$\frac{1}{8}\left(7\,u^2 v^2+8\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+3\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{5}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u^2 v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\Bigg)+$$
$$\frac{3}{5}\,u\,v\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2 v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)+$$
$$\frac{1}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(5\,u^2 v^2+6\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u^2 v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\Bigg)+$$
$$\frac{1}{5}\,u\,v\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2 v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)+$$
$$\frac{1}{7}\,u\,v\left(7\,u\,v+6\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{5}{2}\,u\,v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{4}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{3}{4}\,u\,v\left(3\,u^2 v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$

$$\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{2}{5}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)+$$
$$\frac{1}{6}\,u\,v\left(5\,u^2\,v^2+6\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{1}{5}\,u\,v\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)\right)\,r^8+$$
$$\left(\frac{35\,u\,v}{128}+\frac{5}{48}\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+\right.$$
$$\frac{3}{40}$$
$$\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{1}{14}\left(7\,u\,v+6\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{5}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{4}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{3}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{2}{5}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)+$$
$$\frac{1}{6}\,u\,v\left(5\,u^2\,v^2+6\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$

$$\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{1}{5}uv\left(5uv+4uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}uv\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)\right)+$$
$$\frac{1}{9}\left(9uv+8uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{7}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right.$$
$$\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{5}{4}uv\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{4}{5}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(5uv+4uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}uv\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)+$$
$$\frac{1}{2}uv\left(5u^2v^2+6\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+\right.$$
$$\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{1}{5}uv\left(5uv+4uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}uv\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)+$$
$$\frac{2}{7}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(7uv+6uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{5}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{4}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{3}{4}uv\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{2}{5}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(5uv+4uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}uv\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$

$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right) +$$
$$\frac{1}{6} u v \left(5 u^2 v^2 + 6 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{2} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{1}{5} u v \left(5 u v + 4 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right)\right)\right) +$$
$$\frac{1}{8} u v \left(7 u^2 v^2 + 8 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + 3 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{5}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{3}{5} u v \left(5 u v + 4 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right)\right)\right) +$$
$$\frac{1}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(5 u^2 v^2 + 6 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{2} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{1}{5} u v \left(5 u v + 4 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right)\right)\right) +$$
$$\frac{1}{7} u v \left(7 u v + 6 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{5}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{4}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{3}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$

$$\frac{2}{5}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)+$$
$$\frac{1}{6}\,u\,v\left(5\,u^2\,v^2+6\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{1}{5}\,u\,v\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)\right)$$

$$r^9+\left(\frac{63}{256}+\frac{35}{256}\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\frac{5}{64}\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\right.\right.$$
$$\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{1}{16}\left(5\,u^2\,v^2+6\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{1}{5}\,u\,v\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)+$$
$$\frac{1}{16}\left(7\,u^2\,v^2+8\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+3\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{5}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{3}{5}\,u\,v\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$

$$\frac{1}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\left. \frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right) +$$
$$\frac{1}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(5 u^2 v^2 + 6 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\left. u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{1}{2} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\left. \frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{1}{5} u v \left(5 u v + 4 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\left. \frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right)\right) +$$
$$\frac{1}{7} u v \left(7 u v + 6 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{5}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\frac{4}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{3}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\left. \frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{2}{5} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(5 u v + 4 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\left. \frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right)\right) +$$
$$\frac{1}{6} u v \left(5 u^2 v^2 + 6 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\left. u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{1}{2} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\left. \frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{1}{5} u v \left(5 u v + 4 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\left. \frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right)\right)\right)\right) +$$
$$\frac{1}{10} \left(9 u^2 v^2 + 10 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\frac{7}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{3}{2} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$

$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$

$$u v \left(5 u v + 4 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +\right.$$

$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$

$$\frac{1}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +\right.$$

$$\left.\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right) +$$

$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(5 u^2 v^2 + 6 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +\right.$$

$$u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$

$$\frac{1}{2} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +\right.$$

$$\left.\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$

$$\frac{1}{5} u v \left(5 u v + 4 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +\right.$$

$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$

$$\frac{1}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +\right.$$

$$\left.\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right)\right) +$$

$$\frac{3}{7} u v \left(7 u v + 6 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{5}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +\right.$$

$$\frac{4}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$

$$\frac{3}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +\right.$$

$$\left.\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$

$$\frac{2}{5} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(5 u v + 4 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +\right.$$

$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$

$$\frac{1}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +\right.$$

$$\left.\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right) +$$

$$\frac{1}{6} u v \left(5 u^2 v^2 + 6 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +\right.$$

$$u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$

$$\frac{1}{2} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +\right.$$

$$\left.\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$

$$\frac{1}{5} u v \left(5 u v + 4 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +\right.$$

$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$

$$\frac{1}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +\right.$$

$$\left.\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right)\right) +$$

$$
\begin{aligned}
&\frac{1}{4}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(7u^2v^2+8\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+3\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.\\
&\quad\frac{5}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+\\
&\quad\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.\\
&\qquad\left.\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+\\
&\quad\frac{3}{5}uv\left(5uv+4uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.\\
&\qquad\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+\\
&\qquad\frac{1}{4}uv\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.\\
&\qquad\quad\left.\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)+\\
&\quad\frac{1}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(5u^2v^2+6\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.\\
&\qquad uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+\\
&\qquad\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.\\
&\qquad\quad\left.\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+\\
&\qquad\frac{1}{5}uv\left(5uv+4uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.\\
&\qquad\quad\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+\\
&\qquad\quad\frac{1}{4}uv\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.\\
&\qquad\qquad\left.\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)+\\
&\quad\frac{1}{7}uv\left(7uv+6uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{5}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.\\
&\qquad\frac{4}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+\\
&\qquad\frac{3}{4}uv\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.\\
&\qquad\quad\left.\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+\\
&\qquad\frac{2}{5}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(5uv+4uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.\\
&\qquad\quad\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+\\
&\qquad\quad\frac{1}{4}uv\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.\\
&\qquad\qquad\left.\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)+\\
&\qquad\frac{1}{6}uv\left(5u^2v^2+6\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.\\
&\qquad\quad uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+\\
&\qquad\quad\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.\\
&\qquad\qquad\left.\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+\\
&\qquad\quad\frac{1}{5}uv\left(5uv+4uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.
\end{aligned}
$$

$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+$$
$$\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)\right)\right)\right)+$$
$$\frac{1}{9}\,u\,v\left(9\,u\,v+8\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{7}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right.$$
$$\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{5}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{4}{5}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)+$$
$$\frac{1}{2}\,u\,v\left(5\,u^2\,v^2+6\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{1}{5}\,u\,v\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)+$$
$$\frac{2}{7}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(7\,u\,v+6\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{5}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{4}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{3}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{2}{5}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)+$$
$$\frac{1}{6}\,u\,v\left(5\,u^2\,v^2+6\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$

$$\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{1}{5}uv\left(5uv+4uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}uv\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)\right)+$$
$$\frac{1}{8}uv\left(7u^2v^2+8\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+3\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{5}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{3}{5}uv\left(5uv+4uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}uv\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)+$$
$$\frac{1}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(5u^2v^2+6\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{1}{5}uv\left(5uv+4uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}uv\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)+$$
$$\frac{1}{7}uv\left(7uv+6uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{5}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{4}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{3}{4}uv\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{2}{5}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(5uv+4uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}uv\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$

$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{1}{6} u v \left(5 u^2 v^2 + 6 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) + \frac{1}{2}$$
$$\left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{1}{5} u v \left(5 u v + 4 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \frac{2}{3}\right.$$
$$\left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right.$$
$$\left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) +\right.$$
$$\left.\left.\left.\left.\left.\left.\left.\left.\left.\frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right)\right)\right)\right)\right)\right) r^{10} + O[r]^{11}$$

In[68]:= **Table[FullSimplify[SeriesCoefficient[brad10, k]], {k, 1, 10}]**

Out[68]=

$$\left\{u v, \frac{1}{2} (-1 + u^2) (-1 + v^2), \frac{1}{6} u (-3 + u^2) v (-3 + v^2), \frac{1}{24} (3 - 6 u^2 + u^4) (3 - 6 v^2 + v^4),\right.$$
$$\frac{1}{120} u (15 - 10 u^2 + u^4) v (15 - 10 v^2 + v^4), \frac{1}{720} (-15 + 45 u^2 - 15 u^4 + u^6) (-15 + 45 v^2 - 15 v^4 + v^6),$$
$$\frac{u (-105 + 105 u^2 - 21 u^4 + u^6) v (-105 + 105 v^2 - 21 v^4 + v^6)}{5040},$$
$$\frac{(105 - 420 u^2 + 210 u^4 - 28 u^6 + u^8) (105 - 420 v^2 + 210 v^4 - 28 v^6 + v^8)}{40320},$$
$$\frac{u (945 - 1260 u^2 + 378 u^4 - 36 u^6 + u^8) v (945 - 1260 v^2 + 378 v^4 - 36 v^6 + v^8)}{362880}, \frac{1}{3628800}$$
$$\left.((-945 + 4725 u^2 - 3150 u^4 + 630 u^6 - 45 u^8 + u^{10}) (-945 + 4725 v^2 - 3150 v^4 + 630 v^6 - 45 v^8 + v^{10}))\right\}$$

In[69]:= **TableForm[%]**

Out[69]//TableForm=

$$u v$$
$$\frac{1}{2} (-1 + u^2) (-1 + v^2)$$
$$\frac{1}{6} u (-3 + u^2) v (-3 + v^2)$$
$$\frac{1}{24} (3 - 6 u^2 + u^4) (3 - 6 v^2 + v^4)$$
$$\frac{1}{120} u (15 - 10 u^2 + u^4) v (15 - 10 v^2 + v^4)$$
$$\frac{1}{720} (-15 + 45 u^2 - 15 u^4 + u^6) (-15 + 45 v^2 - 15 v^4 + v^6)$$
$$\frac{u (-105 + 105 u^2 - 21 u^4 + u^6) v (-105 + 105 v^2 - 21 v^4 + v^6)}{5040}$$
$$\frac{(105 - 420 u^2 + 210 u^4 - 28 u^6 + u^8) (105 - 420 v^2 + 210 v^4 - 28 v^6 + v^8)}{40320}$$
$$\frac{u (945 - 1260 u^2 + 378 u^4 - 36 u^6 + u^8) v (945 - 1260 v^2 + 378 v^4 - 36 v^6 + v^8)}{362880}$$
$$\frac{(-945 + 4725 u^2 - 3150 u^4 + 630 u^6 - 45 u^8 + u^{10}) (-945 + 4725 v^2 - 3150 v^4 + 630 v^6 - 45 v^8 + v^{10})}{3628800}$$

In[54]:= **SeriesCoefficient[brad10, 5]**

Out[54]=
$$\frac{3\,u\,v}{8}+\frac{1}{6}\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{5}\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)$$

In[55]:= **FullSimplify[%]**

Out[55]=
$$\frac{1}{120}\,u\,(15-10\,u^2+u^4)\,v\,(15-10\,v^2+v^4)$$

In[56]:= **(* same as with brad5 as it should be *)**

In[57]:= **SeriesCoefficient[brad10, 6]**

Out[57]=
$$\frac{5}{16}+\frac{3}{16}\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+$$
$$\frac{1}{8}\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{1}{6}\left(5\,u^2\,v^2+6\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{1}{5}\,u\,v\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)$$

In[58]:= **FullSimplify[%]**

Out[58]=
$$\frac{1}{720}\,(-15+45\,u^2-15\,u^4+u^6)\,(-15+45\,v^2-15\,v^4+v^6)$$

In[59]:= **SeriesCoefficient[brad10, 7]**

Out[59]=

$$\frac{5\,u\,v}{16}+\frac{1}{8}\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{10}\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)+$$
$$\frac{1}{7}\left(7\,u\,v+6\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{5}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{4}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{3}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{2}{5}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)+$$
$$\frac{1}{6}\,u\,v\left(5\,u^2\,v^2+6\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{1}{5}\,u\,v\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)\right)$$

In[60]:= **FullSimplify[%]**

Out[60]=

$$\frac{u\,(-105+105\,u^2-21\,u^4+u^6)\,v\,(-105+105\,v^2-21\,v^4+v^6)}{5040}$$

In[61]:= **SeriesCoefficient[brad10, 8]**

Out[61]=

$$\frac{35}{128}+\frac{5}{32}\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+$$
$$\frac{3}{32}\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$

$$\frac{1}{12}\left(5 u^2 v^2+6\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$u v\left(3 u v+2 u v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2} u v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3 u^2 v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3} u v\left(3 u v+2 u v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2} u v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{1}{5} u v\left(5 u v+4 u v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2} u v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3 u v+2 u v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2} u v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4} u v\left(3 u^2 v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\frac{1}{3} u v\left(3 u v+2 u v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2} u v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)+$$
$$\frac{1}{8}\left(7 u^2 v^2+8\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+3\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{5}{3} u v\left(3 u v+2 u v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2} u v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3 u^2 v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3} u v\left(3 u v+2 u v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2} u v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{3}{5} u v\left(5 u v+4 u v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2} u v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3 u v+2 u v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2} u v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4} u v\left(3 u^2 v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\frac{1}{3} u v\left(3 u v+2 u v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2} u v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)+$$
$$\frac{1}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(5 u^2 v^2+6\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$u v\left(3 u v+2 u v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2} u v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3 u^2 v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3} u v\left(3 u v+2 u v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2} u v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{1}{5} u v\left(5 u v+4 u v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2} u v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3 u v+2 u v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2} u v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4} u v\left(3 u^2 v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\frac{1}{3} u v\left(3 u v+2 u v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2} u v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)+$$
$$\frac{1}{7} u v\left(7 u v+6 u v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{5}{2} u v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{4}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3 u v+2 u v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2} u v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{3}{4} u v\left(3 u^2 v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3} u v\left(3 u v+2 u v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2} u v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{2}{5}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(5 u v+4 u v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2} u v\left(u^2 v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$

$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)+$$
$$\frac{1}{6}\,u\,v\left(5\,u^2\,v^2+6\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{1}{5}\,u\,v\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)\right)$$

In[62]:= **FullSimplify[%]**

Out[62]= $$\frac{(105-420\,u^2+210\,u^4-28\,u^6+u^8)\,(105-420\,v^2+210\,v^4-28\,v^6+v^8)}{40320}$$

In[63]:= **SeriesCoefficient[brad10, 9]**

Out[63]= $$\frac{35\,u\,v}{128}+\frac{5}{48}\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{3}{40}\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)+$$
$$\frac{1}{14}\left(7\,u\,v+6\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{5}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{4}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{3}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{2}{5}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)+$$
$$\frac{1}{6}\,u\,v\left(5\,u^2\,v^2+6\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$

$$u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{1}{5}\,u\,v\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)\right)+$$
$$\frac{1}{9}\left(9\,u\,v+8\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{7}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right.$$
$$\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{5}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{4}{5}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)+$$
$$\frac{1}{2}\,u\,v\left(5\,u^2\,v^2+6\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{1}{5}\,u\,v\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)+$$
$$\frac{2}{7}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(7\,u\,v+6\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{5}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{4}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{3}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{2}{5}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$

$$\frac{1}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\left. \frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right) +$$
$$\frac{1}{6} u v \left(5 u^2 v^2 + 6 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\left. u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{1}{2} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\left. \frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{1}{5} u v \left(5 u v + 4 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\left.\left. \frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right)\right)\right) +$$
$$\frac{1}{8} u v \left(7 u^2 v^2 + 8 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + 3 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\frac{5}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\left. \frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{3}{5} u v \left(5 u v + 4 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\left. \frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right) +$$
$$\frac{1}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(5 u^2 v^2 + 6 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\left. u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{1}{2} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\left. \frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{1}{5} u v \left(5 u v + 4 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\left.\left. \frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right)\right)\right) +$$
$$\frac{1}{7} u v \left(7 u v + 6 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{5}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$
$$\frac{4}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{3}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$

$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{2}{5} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(5 u v + 4 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right) +$$
$$\frac{1}{6} u v \left(5 u^2 v^2 + 6 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{2} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{1}{5} u v \left(5 u v + 4 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right)\right)\right)\right)$$

In[64]:= **FullSimplify[%]**

Out[64]= $$\frac{u\,(945 - 1260\,u^2 + 378\,u^4 - 36\,u^6 + u^8)\,v\,(945 - 1260\,v^2 + 378\,v^4 - 36\,v^6 + v^8)}{362880}$$

In[65]:= **SeriesCoefficient[brad10, 10]**

Out[65]= $$\frac{63}{256} + \frac{35}{256} \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{5}{64} \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{1}{16} \left(5 u^2 v^2 + 6 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{2} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{1}{5} u v \left(5 u v + 4 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right)\right) +$$
$$\frac{1}{16} \left(7 u^2 v^2 + 8 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + 3 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$

$$\frac{5}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{3}{5} u v \left(5 u v + 4 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right) +$$
$$\frac{1}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(5 u^2 v^2 + 6 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{2} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{1}{5} u v \left(5 u v + 4 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right)\right) +$$
$$\frac{1}{7} u v \left(7 u v + 6 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{5}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{4}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{3}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{2}{5} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(5 u v + 4 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right)\right) +$$
$$\frac{1}{6} u v \left(5 u^2 v^2 + 6 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{2} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{1}{5} u v \left(5 u v + 4 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$

$$\frac{1}{4}\, u\, v \left(3\, u^2\, v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$

$$\left.\frac{1}{3}\, u\, v \left(3\, u\, v + 2\, u\, v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2}\, u\, v \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right)\right)\right)\right) +$$

$$\frac{1}{10} \left(9\, u^2\, v^2 + 10 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$

$$\frac{7}{3}\, u\, v \left(3\, u\, v + 2\, u\, v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2}\, u\, v \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$

$$\frac{3}{2} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)$$

$$\left(3\, u^2\, v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$

$$\left.\frac{1}{3}\, u\, v \left(3\, u\, v + 2\, u\, v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2}\, u\, v \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$

$$u\, v \left(5\, u\, v + 4\, u\, v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2}\, u\, v \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$

$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3\, u\, v + 2\, u\, v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2}\, u\, v \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$

$$\frac{1}{4}\, u\, v \left(3\, u^2\, v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$

$$\left.\frac{1}{3}\, u\, v \left(3\, u\, v + 2\, u\, v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2}\, u\, v \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right) +$$

$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(5\, u^2\, v^2 + 6 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$

$$u\, v \left(3\, u\, v + 2\, u\, v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2}\, u\, v \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$

$$\frac{1}{2} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3\, u^2\, v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$

$$\left.\frac{1}{3}\, u\, v \left(3\, u\, v + 2\, u\, v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2}\, u\, v \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$

$$\frac{1}{5}\, u\, v \left(5\, u\, v + 4\, u\, v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2}\, u\, v \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$

$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3\, u\, v + 2\, u\, v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2}\, u\, v \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$

$$\frac{1}{4}\, u\, v \left(3\, u^2\, v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$

$$\left.\frac{1}{3}\, u\, v \left(3\, u\, v + 2\, u\, v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2}\, u\, v \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right)\right) +$$

$$\frac{3}{7}\, u\, v \left(7\, u\, v + 6\, u\, v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{5}{2}\, u\, v \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$

$$\frac{4}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3\, u\, v + 2\, u\, v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2}\, u\, v \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$

$$\frac{3}{4}\, u\, v \left(3\, u^2\, v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$

$$\left.\frac{1}{3}\, u\, v \left(3\, u\, v + 2\, u\, v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2}\, u\, v \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$

$$\frac{2}{5} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(5\, u\, v + 4\, u\, v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2}\, u\, v \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$

$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3\, u\, v + 2\, u\, v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2}\, u\, v \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$

$$\frac{1}{4}\, u\, v \left(3\, u^2\, v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$

$$\left.\frac{1}{3}\, u\, v \left(3\, u\, v + 2\, u\, v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2}\, u\, v \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right) +$$

$$\frac{1}{6}\, u\, v \left(5\, u^2\, v^2 + 6 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + \right.$$

$$u\, v \left(3\, u\, v + 2\, u\, v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2}\, u\, v \left(u^2\, v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$

$$\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{1}{5}uv\left(5uv+4uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}uv\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)\right)+$$
$$\frac{1}{4}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(7u^2v^2+8\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+3\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{5}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{3}{5}uv\left(5uv+4uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}uv\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)+$$
$$\frac{1}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(5u^2v^2+6\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{1}{5}uv\left(5uv+4uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}uv\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)+$$
$$\frac{1}{7}uv\left(7uv+6uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{5}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{4}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{3}{4}uv\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{1}{3}uv\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{2}{5}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(5uv+4uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3uv+2uv\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}uv\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}uv\left(3u^2v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$

$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right) +$$
$$\frac{1}{6} u v \left(5 u^2 v^2 + 6 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{2} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{1}{5} u v \left(5 u v + 4 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right)\right)\right) +$$
$$\frac{1}{9} u v \left(9 u v + 8 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{7}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right.$$
$$\left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{5}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{4}{5} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(5 u v + 4 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right) +$$
$$\frac{1}{2} u v \left(5 u^2 v^2 + 6 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{2} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$
$$\frac{1}{5} u v \left(5 u v + 4 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{3}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{2}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{1}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right)\right) +$$
$$\frac{2}{7} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(7 u v + 6 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{5}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{4}{3} \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right) +$$
$$\frac{3}{4} u v \left(3 u^2 v^2 + 4 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right) +$$
$$\frac{1}{3} u v \left(3 u v + 2 u v \left(-\frac{u^2}{2} - \frac{v^2}{2}\right) + \frac{1}{2} u v \left(u^2 v^2 + 2 \left(-\frac{u^2}{2} - \frac{v^2}{2}\right)\right)\right)\right) +$$

$$\frac{2}{5}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)+$$
$$\frac{1}{6}\,u\,v\left(5\,u^2\,v^2+6\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{1}{5}\,u\,v\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)\right)\right)+$$
$$\frac{1}{8}\,u\,v\left(7\,u^2\,v^2+8\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+3\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{5}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{3}{5}\,u\,v\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)+$$
$$\frac{1}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(5\,u^2\,v^2+6\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{1}{5}\,u\,v\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)\right)\right)+$$
$$\frac{1}{7}\,u\,v\left(7\,u\,v+6\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{5}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$

$$\frac{4}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{3}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{2}{5}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)+$$
$$\frac{1}{6}\,u\,v\left(5\,u^2\,v^2+6\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{2}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)+$$
$$\frac{1}{5}\,u\,v\left(5\,u\,v+4\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{3}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\frac{2}{3}\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)+$$
$$\frac{1}{4}\,u\,v\left(3\,u^2\,v^2+4\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)+\right.$$
$$\left.\left.\frac{1}{3}\,u\,v\left(3\,u\,v+2\,u\,v\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)+\frac{1}{2}\,u\,v\left(u^2\,v^2+2\left(-\frac{u^2}{2}-\frac{v^2}{2}\right)\right)\right)\right)\right)\right)\right)\right)$$

In[66]:= **FullSimplify**[%]

Out[66]= $$\frac{1}{3628800}\left(\left(-945+4725\,u^2-3150\,u^4+630\,u^6-45\,u^8+u^{10}\right)\left(-945+4725\,v^2-3150\,v^4+630\,v^6-45\,v^8+v^{10}\right)\right)$$