```
> restart
> c := c1 + c2 + c3 + 2.09·10^4·t^(-0.3017)/360 + 1.064·10^6·a·t^0.4925/(52.47·q·360)
       + (4.242·10^4·a·t^0.7952 + 1.812·i·p·(n·t + 1.2·q)^0.861)/(52.47·q·360)
       + 4.25·10^3·a(n·t + 1.2·q)/(52.47·q·360) · 5.042·10^3·q^(-0.1899)/360 + 0.1049·q^0.671/360
```

$$c := c1 + c2 + c3 + \frac{58.05555556}{t^{0.3017}} + \frac{56.32848400\, a\, t^{0.4925}}{q} + \frac{0.00005294030451\,\left(42420.000\, a\, t^{0.7952} + 1.812\, i\, p\,(n\, t + 1.2\, q)^{0.861}\right)}{q} + \frac{3.151198099\, a(n\, t + 1.2\, q)}{q^{1.1899}} + 0.0002913888889\, q^{0.671} \tag{1}$$

```
> ∂/∂t c
```

$$-\frac{17.51536111}{t^{1.3017}} + \frac{27.74177837\, a}{t^{0.5075}\, q} + \frac{0.00005294030451\,\left(\frac{33732.38400\, a}{t^{0.2048}} + \frac{1.560132\, i\, p\, n}{(n\, t + 1.2\, q)^{0.139}}\right)}{q} + \frac{3.151198099\, \mathrm{D}(a)\,(n\, t + 1.2\, q)\, n}{q^{1.1899}} \tag{2}$$

```
> ∂/∂t ∂/∂t c
```

$$\frac{22.79974556}{t^{2.3017}} - \frac{14.07895252\, a}{t^{1.5075}\, q} + \frac{0.00005294030451\,\left(-\frac{6908.392243\, a}{t^{1.2048}} - \frac{0.216858348\, i\, p\, n^2}{(n\, t + 1.2\, q)^{1.139}}\right)}{q} + \frac{3.151198099\, \mathrm{D}^{(2)}(a)\,(n\, t + 1.2\, q)\, n^2}{q^{1.1899}} \tag{3}$$

```
> ∂/∂q c
```

$$-\frac{56.32848400\, a\, t^{0.4925}}{q^2} + \frac{0.00009911263579\, i\, p}{(n\, t + 1.2\, q)^{0.139}\, q} - \frac{0.00005294030451\,\left(42420.000\, a\, t^{0.7952} + 1.812\, i\, p\,(n\, t + 1.2\, q)^{0.861}\right)}{q^2} + \frac{3.781437719\, \mathrm{D}(a)\,(n\, t + 1.2\, q)}{q^{1.1899}} - \frac{3.749610618\, a(n\, t + 1.2\, q)}{q^{2.1899}} + \frac{0.0001955219445}{q^{0.329}} \tag{4}$$

```
> diff(diff(c, q), q);
```

$$\frac{112.6569680\, a\, t^{0.4925}}{q^3} - \frac{0.00001653198765\, i\, p}{(n\, t + 1.2\, q)^{1.139}\, q} - \frac{0.0001982252716\, i\, p}{(n\, t + 1.2\, q)^{0.139}\, q^2} + \frac{0.0001058806090\, (42420.000\, a\, t^{0.7952} + 1.812\, i\, p\, (n\, t + 1.2\, q)^{0.861})}{q^3} + \frac{4.537725263\, \mathrm{D}^{(2)}(a)\, (n\, t + 1.2\, q)}{q^{1.1899}} - \frac{8.999065484\, \mathrm{D}(a)\, (n\, t + 1.2\, q)}{q^{2.1899}} + \frac{8.211272292\, a\, (n\, t + 1.2\, q)}{q^{3.1899}} - \frac{0.00006432671974}{q^{1.329}} \tag{5}$$

```
> diff(diff(c, t), q);
```

$$-\frac{27.74177837\, a}{t^{0.5075}\, q^2} - \frac{0.00001377665637\, i\, p\, n}{(n\, t + 1.2\, q)^{1.139}\, q} - \frac{0.00005294030451\, \left(\frac{33732.38400\, a}{t^{0.2048}} + \frac{1.560132\, i\, p\, n}{(n\, t + 1.2\, q)^{0.139}}\right)}{q^2} + \frac{3.781437719\, \mathrm{D}^{(2)}(a)\, (n\, t + 1.2\, q)\, n}{q^{1.1899}} - \frac{3.749610618\, \mathrm{D}(a)\, (n\, t + 1.2\, q)\, n}{q^{2.1899}} \tag{6}$$

```
> diff(diff(c, q), t);
```

$$-\frac{27.74177837\, a}{t^{0.5075}\, q^2} - \frac{0.00001377665637\, i\, p\, n}{(n\, t + 1.2\, q)^{1.139}\, q} - \frac{0.00005294030451\, \left(\frac{33732.38400\, a}{t^{0.2048}} + \frac{1.560132\, i\, p\, n}{(n\, t + 1.2\, q)^{0.139}}\right)}{q^2} + \frac{3.781437719\, \mathrm{D}^{(2)}(a)\, (n\, t + 1.2\, q)\, n}{q^{1.1899}} - \frac{3.749610618\, \mathrm{D}(a)\, (n\, t + 1.2\, q)\, n}{q^{2.1899}} \tag{7}$$

```
> a := 0.20;
```

$$a := 0.20 \tag{8}$$

```
> c1 := 12.5;
```

$$c1 := 12.5 \tag{9}$$

```
> c2 := 0.5;
```

$$c2 := 0.5 \tag{10}$$

```
> c3 := 0.9;
```

$$c3 := 0.9 \tag{11}$$

```
> i := 0.10;
```

$$i := 0.10 \tag{12}$$

```
> n := 2;
```

$$n := 2 \tag{13}$$

```
> p := 7000;
```

$$p := 7000 \tag{14}$$

> c

$$13.9 + \frac{58.05555556}{t^{0.3017}} + \frac{11.26569680\, t^{0.4925}}{q} + \frac{0.00005294030451\, \left(8484.00000\, t^{0.7952} + 1268.40000\, (2\, t + 1.2\, q)^{0.861}\right)}{q} + \frac{0.6302396198}{q^{1.1899}} + 0.0002913888889\, q^{0.671} \tag{15}$$

> $\frac{\partial}{\partial t} c$

$$-\frac{17.51536111}{t^{1.3017}} + \frac{5.548355674}{t^{0.5075}\, q} + \frac{0.00005294030451\, \left(\frac{6746.476800}{t^{0.2048}} + \frac{2184.184800}{(2\, t + 1.2\, q)^{0.139}}\right)}{q} \tag{16}$$

> $\frac{\partial}{\partial t} \frac{\partial}{\partial t} c$

$$\frac{22.79974556}{t^{2.3017}} - \frac{2.815790505}{t^{1.5075}\, q} + \frac{0.00005294030451\, \left(-\frac{1381.678449}{t^{1.2048}} - \frac{607.2033744}{(2\, t + 1.2\, q)^{1.139}}\right)}{q} \tag{17}$$

> $\frac{\partial}{\partial q} c$

$$-\frac{11.26569680\, t^{0.4925}}{q^2} + \frac{0.06937884505}{(2\, t + 1.2\, q)^{0.139}\, q} - \frac{0.00005294030451\, \left(8484.00000\, t^{0.7952} + 1268.40000\, (2\, t + 1.2\, q)^{0.861}\right)}{q^2} - \frac{0.7499221236}{q^{2.1899}} + \frac{0.0001955219445}{q^{0.329}} \tag{18}$$

> $\frac{\partial}{\partial q} \frac{\partial}{\partial q} c$

$$\frac{22.53139360\, t^{0.4925}}{q^3} - \frac{0.01157239135}{(2\, t + 1.2\, q)^{1.139}\, q} - \frac{0.1387576901}{(2\, t + 1.2\, q)^{0.139}\, q^2} + \frac{0.0001058806090\, \left(8484.00000\, t^{0.7952} + 1268.40000\, (2\, t + 1.2\, q)^{0.861}\right)}{q^3} + \frac{1.642254458}{q^{3.1899}} - \frac{0.00006432671974}{q^{1.329}} \tag{19}$$

> $\frac{\partial}{\partial t} \frac{\partial}{\partial q} c$

(20)

$$-\frac{5.548355674}{t^{0.5075}\,q^2}-\frac{0.01928731892}{(2\,t+1.2\,q)^{1.139}\,q}-\frac{0.00005294030451\left(\frac{6746.476800}{t^{0.2048}}+\frac{2184.184800}{(2\,t+1.2\,q)^{0.139}}\right)}{q^2} \tag{20}$$

```
> 
```

$$\frac{\partial}{\partial q}\frac{\partial}{\partial t}c$$

$$-\frac{5.548355674}{t^{0.5075}\,q^2}-\frac{0.01928731892}{(2\,t+1.2\,q)^{1.139}\,q}-\frac{0.00005294030451\left(\frac{6746.476800}{t^{0.2048}}+\frac{2184.184800}{(2\,t+1.2\,q)^{0.139}}\right)}{q^2} \tag{21}$$

```
> 
> 
> 
> 
> 
```