In[1]:=
```
f[a_, b_] := 30 - 58 a + 30 a^2 - 20 b + 20 a b + 4 b^2
```

In[2]:=
```
D[f[a, b], a]
```

Out[2]=
$$-58 + 60\,a + 20\,b$$

In[3]:=
```
f1[a_, b_] := -58 + 60 a + 20 b
```

In[4]:=
```
D[f[a, b], b]
```

Out[4]=
$$-20 + 20\,a + 8\,b$$

In[5]:=
```
f2[a_, b_] := -20 + 20 a + 8 b
```

In[6]:=
```
Expand[
  -f1[a, b] f1[a - t f1[a, b], b - t f2[a, b]] - f2[a, b] f2[a - t f1[a, b], b - t f2[a, b]]]
```

Out[6]=
$$-3764 + 7760\,a - 4000\,a^2 + 2640\,b - 2720\,a\,b - 464\,b^2 + 251\,440\,t - 518\,400\,a\,t + 267\,200\,a^2\,t - 176\,320\,b\,t + 181\,760\,a\,b\,t + 30\,912\,b^2\,t$$

In[7]:=
```
Solve[% == 0, t]
```

Out[7]=
$$\left\{\left\{t \to \frac{941 - 1940\,a + 1000\,a^2 - 660\,b + 680\,a\,b + 116\,b^2}{4\left(15\,715 - 32\,400\,a + 16\,700\,a^2 - 11\,020\,b + 11\,360\,a\,b + 1932\,b^2\right)}\right\}\right\}$$

In[8]:=
```
s = 0; a = 0; b = 0; For[i = 1, i ≤ 5, i++, {Print[N[{s, a, b}]],
  s = N[(941 - 1940 a + 1000 a^2 - 660 b + 680 a b + 116 b^2)/(4 (15715 - 32400 a + 16700 a^2 - 11020 b + 11360 a b + 1932 b^2)), 10],
  A = a - s f1[a, b], B = b - s f2[a, b], a = A, b = B}]
```

```
{0., 0., 0.}
{0.0149698, 0.868247, 0.299395}
{0.83422, 0.799237, 0.499523}
```

Power::infy : Infinite expression $\frac{1}{0.\times10^{1}}$ encountered. ≫

Infinity::indet : Indeterminate expression $0.\times10^{-1}$ ComplexInfinity encountered. ≫

```
{Indeterminate, Indeterminate, Indeterminate}
{Indeterminate, Indeterminate, Indeterminate}
```