Protokoll der Berechnung der 8 Parameter mit Maple

```
> restart;
> with (LinearAlgebra):
```

Ebenenpunkte 4 Punkte

```
> x1:=0;
```

$$x1 := 0$$

```
> y1:=0;
```

$$y1 := 0$$

```
> e1:=0;
```

$$e1 := 0$$

```
> f1:=0;
```

$$f1 := 0$$

```
> x2:=0.1741;
```

$$x2 := 0.1741$$

```
> y2:=0.005;
```

$$y2 := 0.005$$

```
> e2:=0.2668;
```

$$e2 := 0.2668$$

```
> f2:=0.0111;
```

$$f2 := 0.0111$$

```
> x3:=0.7347;
```

$$x3 := 0.7347$$

```
> y3:=0.2653;
```

$$y3 := 0.2653$$

```
> e3:=0.6234;
```

$$e3 := 0.6234$$

```
> f3:=0.3377;
```

$$f3 := 0.3377$$

```
> x4:=0.0139;
```

$$x4 := 0.0139$$

```
> y4:=0.7502;
```

$$y4 := 0.7502$$

```
> e4:=0.0046;
```

$$e4 := 0.0046$$

```
> f4:=0.3759;
```

$$f4 := 0.3759$$

Koeffizientenmatrix 8x8

```
> a:=Matrix([[x1,y1,1,0,0,0,-x1*e1,-y1*e1],[x2,y2,1,0,0,0,-x2*e2,-
  y2*e2],[x3,y3,1,0,0,0,-x3*e3,-y3*e3],[x4,y4,1,0,0,0,-x4*e4,-y4*e
  4],[0,0,0,x1,y1,1,-x1*f1,-y1*f1],[0,0,0,x2,y2,1,-x2*f2,-y2*f2],[
  0,0,0,x3,y3,1,-x3*f3,-y3*f3],[0,0,0,x4,y4,1,-x4*f4,-y4*f4]]);
```

$$a := \begin{bmatrix} 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 \\ 0.1741 & 0.005 & 1 & 0 & 0 & 0 & -0.04644988 & -0.0013340 \\ 0.7347 & 0.2653 & 1 & 0 & 0 & 0 & -0.45801198 & -0.16538802 \\ 0.0139 & 0.7502 & 1 & 0 & 0 & 0 & -0.00006394 & -0.00345092 \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0.1741 & 0.005 & 1 & -0.00193251 & -0.0000555 \\ 0 & 0 & 0 & 0.7347 & 0.2653 & 1 & -0.24810819 & -0.08959181 \\ 0 & 0 & 0 & 0.0139 & 0.7502 & 1 & -0.00522501 & -0.28200018 \end{bmatrix}$$

Matrix der Transformierten Punkte

```
> c:=Vector(8,1,[e1,e2,e3,e4,f1,f2,f3,f4]);
```

$$c := \begin{bmatrix} 0 \\ 0.2668 \\ 0.6234 \\ 0.0046 \\ 0 \\ 0.0111 \\ 0.3377 \\ 0.3759 \end{bmatrix}$$

Ergebnismatrix a11...a32, a33=1

```
> k:=LinearSolve(a,c);
```

$$k := \begin{bmatrix} 1.38777657509310592 \\ -0.000162731396536527109 \\ 0. \\ -0.00222738206474847696 \\ 2.08796454809775244 \\ 0. \\ -0.663872203739003464 \\ 4.23378730565169281 \end{bmatrix}$$

```
> a11:=k[1];
```

$$a11 := 1.38777657509310592$$

```
> a12:=k[2];
```

$$a12 := -0.000162731396536527109$$

```
> a13:=k[3];
```

$$a13 := 0.$$

```
> a21:=k[4];
```

$$a21 := -0.00222738206474847696$$

```
> a22:=k[5];
```

$$a22 := 2.08796454809775244$$

```
> a23:=k[6];
```

$$a23 := 0.$$

```
> a31:=k[7];
```

$$a31 := -0.663872203739003464$$

```
> a32:=k[8];
```

$$a32 := 4.23378730565169281$$

```
> a33:=1;
```

$$a33 := 1$$

Proberechnung für einen Punkt(x,y)

```
> x0:=0.3558;
```

$$x0 := 0.3558$$

```
> y0:=0.3490;
```

$$y0 := 0.3490$$

```
> g:=(a11*x0+a12*y0+a13)/(a31*x0+a32*y0+1);
```

$$g := 0.2202717887$$

```
> h:=(a21*x0+a22*y0+a23)/(a31*x0+a32*y0+1);
```

$$h := 0.3247575883$$