```
(*
interpolare Lagrange - forma parametrica
  comportamentul la translatii, rotatii
*)
```

In[ ]:=
```
t0 = 0;
t1 = 1 / 2;
t2 = 1;
```

In[ ]:=
$$Lt0[t\_] := \frac{(t - t1)\ (t - t2)}{(t0 - t1)\ (t0 - t2)};$$
$$Lt1[t\_] := \frac{(t - t0)\ (t - t2)}{(t1 - t0)\ (t1 - t2)};$$
$$Lt2[t\_] := \frac{(t - t0)\ (t - t1)}{(t2 - t0)\ (t2 - t1)};$$

In[ ]:=
```
x0 = 1; y0 = 1;
x1 = 2; y1 = 2;
x2 = -1; y2 = 3;
```

In[ ]:=
```
Lt[t_] := Lt0[t] {x0, y0} + Lt1[t] {x1, y1} + Lt2[t] {x2, y2}
```

In[ ]:=
```
Lt[t] // Expand
```

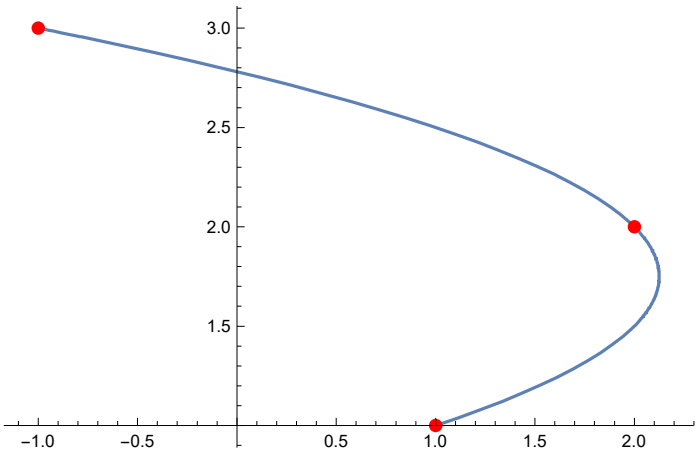
Out[ ]=
$$\{1 + 6\,t - 8\,t^2,\ 1 + 2\,t\}$$

In[ ]:=
```
c1 = ParametricPlot[Lt[t], {t, t0, t2}];
```

In[ ]:=
```
PA = Graphics[{Red, PointSize[Large], Point[{x0, y0}]}];
PB = Graphics[{Red, PointSize[Large], Point[{x1, y1}]}];
PC = Graphics[{Red, PointSize[Large], Point[{x2, y2}]}];
```

In[ ]:=
```
Show[c1, PA, PB, PC]
```

Out[ ]=



In[ ]:=
```
a = 1; b = -1;
```

```
In[ ]:= u0 = x0 + a;
        u1 = x1 + a;
        u2 = x2 + a;

In[ ]:= w0 = y0 + b;
        w1 = y1 + b;
        w2 = y2 + b;

In[ ]:= Lt[t_] := Lt0[t] {u0, w0} + Lt1[t] {u1, w1} + Lt2[t] {u2, w2}

In[ ]:= c2 = ParametricPlot[Lt[t], {t, t0, t2}, PlotStyle → Magenta];

In[ ]:= PAt = Graphics[{Green, PointSize[Large], Point[{u0, w0}]}];
        PBt = Graphics[{Green, PointSize[Large], Point[{u1, w1}]}];
        PCt = Graphics[{Green, PointSize[Large], Point[{u2, w2}]}];

In[ ]:= linie = ParametricPlot[{x, 2}, {x, -1, 4}, PlotStyle → White];

In[ ]:= Show[linie, c1, PA, PB, PC, c2, PAt, PBt, PCt]
```

Out[ ]=