

```
(*
interpolare Lagrange - forma explicita
comportamentul la translatii
*)
```

```
In[ ]:= a = 1; b = 3;
```

```
In[ ]:= x0 = 0;
x1 = -1;
x2 = 3;
```

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

```
In[ ]:= y0 = 2;
y1 = 1;
y2 = 0;
```

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

```
In[ ]:= L0[x_] := (x - x1) (x - x2) /
(x0 - x1) (x0 - x2);
L1[x_] := (x - x0) (x - x2) /
(x1 - x0) (x1 - x2);
L2[x_] := (x - x0) (x - x1) /
(x2 - x0) (x2 - x1);
```

```
In[ ]:= L[x_] := y0 L0[x] + y1 L1[x] + y2 L2[x]
```

```
In[ ]:= Simplify[L[x]]
```

```
Out[ ]:= 1 / 12 (24 + 7 x - 5 x^2)
```

```
In[ ]:= Lt0[u_] := (u - u1) (u - u2) /
(x0 - x1) (x0 - x2);
Lt1[u_] := (u - u0) (u - u2) /
(x1 - x0) (x1 - x2);
Lt2[u_] := (u - u0) (u - u1) /
(x2 - x0) (x2 - x1);
```

```
In[ ]:= Lt[u_] := w0 Lt0[u] + w1 Lt1[u] + w2 Lt2[u]
```

```
In[ ]:= Simplify[Lt[u]]
```

```
Out[ ]:= 1 / 12 (48 + 17 u - 5 u^2)
```

```
In[6]:= Simplify[Lt[x + a] - L[x]]
```

```
Out[6]= 3
```

```
In[6]:= LX = Plot[L[x], {x, x0, x2}];
```

```
In[6]:= LU = Plot[Lt[u], {u, u0, u2}, PlotStyle -> Dashed];
```

```
In[6]:= dreapta = ParametricPlot[{x, 4}, {x, 0, 6}, PlotStyle -> White];
```

```
In[6]:= Show[dreapta, LX, LU]
```

