

1. Interpolating polynomials: Find a quadratic polynomial  $y(t)$  such that  $y(0)=3$ ,  $y(1/2)=4$ , and  $y(1)=0$ .
2. Let  $X(t)=at^3+bt^2+ct+d$  where  $x(0)=3$ ,  $x(1)=2$ ,  $x'(0)=1$ ,  $x'(1)=0$ . Write four equations that  $a$ ,  $b$ ,  $c$ , and  $d$  must satisfy.
3. Find the Hermitian curves  $x(t)$  and  $y(t)$  where  $x(0)=3$ ,  $x(1)=2$ ,  $x'(0)=1$ ,  $x'(1)=0$ ,  $y(0)=2$ ,  $y(1)=2$ ,  $y'(0)=0$ ,  $y'(1)=1$ . Plot the curve for  $t$  in the range  $[0,1]$ .

4. Plot the Hermitian blending functions.