Interpolation polynomials

A

1. Construct the interpolation polynomial corresponding to the information below. Specify the type of interpolation.

a)

x_k	0	1
y_k	0	1
y'_k	1	0

b) $f(0) = 1,\ f'(0) = 2, f'(1) = -1$

c)

x_k	3	7	9	10
y_k	160	120	72	63

d) $x_0 = -1$ double node, $x_1 = 0$ simple node, $x_2 = 1$ simple node.

B

1. Construct the interpolation polynomial corresponding to the information below. Specify the type of interpolation.

a)

x_k	0.5	1
y_k	4	1
y'_k	-16	-2

b) $f(-1) = 1,\ f(0) = 1,\ f''(0) = 2$

c)

x_k	-4	-1	0	2	5
y_k	1245	33	5	9	1335

d) $x_0 = -1$ double node, $x_1 = 0$ simple node, $x_2 = 1$ simple node.