Quiz 1

Numerical Methods

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Ans:

x	f(x)
1	5
2	9
3	11
4	11
5	9
6	5

As we can see that x = 6 (data points)

Hence, degree of polynomial is

6 − 1 = 5

Data points = n + 1

Degree of Polynomial = n.

Hence, n here is "5"

Ans2.

S	T
0	0
1	y
2	3
4	2

$\frac{y-0}{1-0} = y$

$\frac{3-y}{2-1} = \frac{3-y}{1}$

$\frac{2-3}{4-2} = \frac{-1}{2}$

$\frac{3-y-y}{2} = \frac{3-2y}{2}$

$\frac{-0.5-3+y}{4-1} = \frac{-3.5+y}{3}$

$\frac{3-2y}{2}$

$\frac{-3.5+y}{3}$

$\left(\frac{-3.5+y}{3} - \left(\frac{+3-2y}{2}\right)\right) / 4-0$

$\left(\frac{-7+2y-9+6y}{6}\right) / 4-0$

Now, $\frac{-16+8y}{24} = 6$ ~> as coefficient of $x^3 = 6$, we equate it

$-16+8y = 144$

$8y = 160$

$y = 20$