

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
 $n = 6$ (data points)
Hence, degree of
polynomial is

$$6 - 1 = \boxed{5}$$

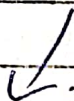
Data points = $n + 1$
Degree of Polynomial = n

Hence, n
 n here is "5"

Ans2.	S	T		
	0	0	$\frac{y-0}{1-0} = y$	$\frac{3-y-y}{2} = \frac{3-2y}{2}$
	1	y	$\frac{3-y}{2-1} = \frac{3-y}{1}$	
	2	3		
	4	2	$\frac{2-3}{4-2} = \frac{2-1}{2}$	$\frac{-0.5-3+y}{4-1} = \frac{-3.5+y}{3}$

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

$$\frac{-3.5+y}{3} \rightarrow \left(\frac{-7+2y-9+6y}{6} \right) / 4-0$$



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

$$-16+8y = 144$$

$$8y = 160$$

$$y = 20$$