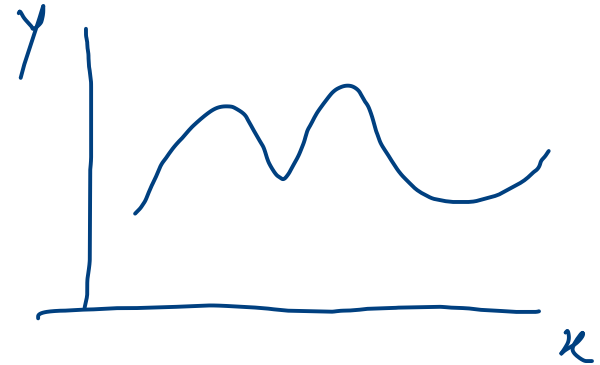
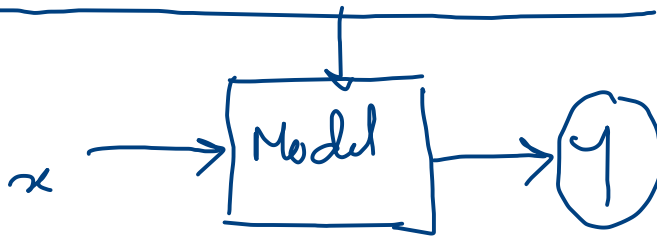


$$Y = a_0 + a_1 x^1 + a_2 x^2 + \dots + a_k x^k$$

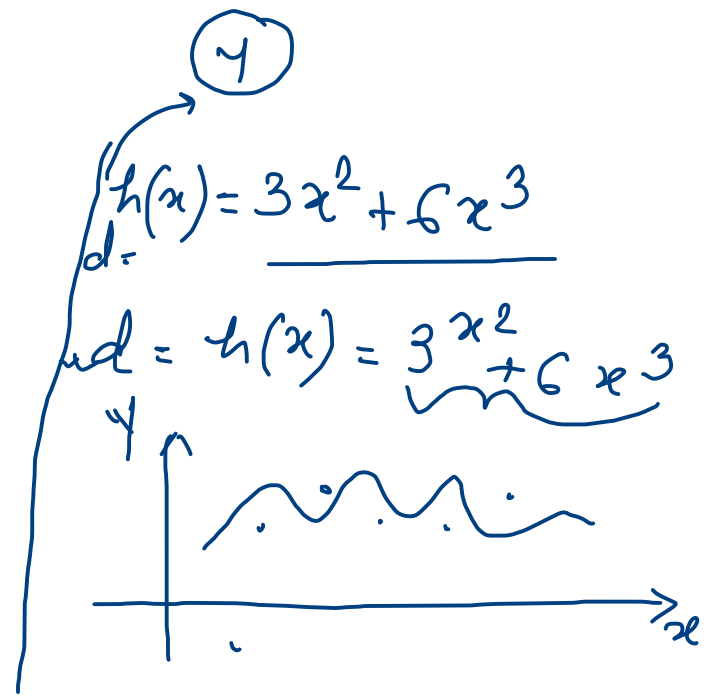
Known equation

$$Y = 2 + 3x^2 + 4x^5$$

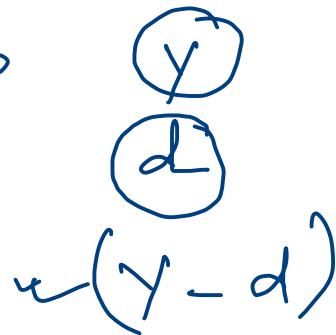
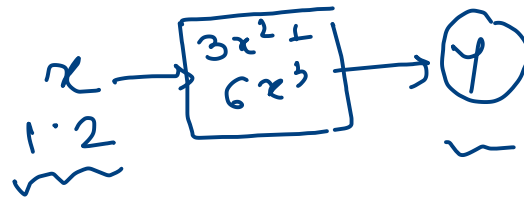


Structure (not known)

x	$\frac{\text{actual}}{y}$	$\frac{\text{pred}}{d}$
1.2	(6)	14.688
2	3	\checkmark
4	7.8	\checkmark
\vdots		



$m = \text{no. of training samples}$



$$\text{Error} = \sum_{i=1}^m (y_i - d_i) \quad ?? \quad (y-d)$$

$$\text{Error} = \sum_{i=1}^m |y_i - d_i| \quad ??$$

$$(SSE) \text{ Error} = \sum_{i=1}^m (y_i - d_i)^2 \quad ??$$

$$\text{MSSE} \quad \text{Error} = \frac{1}{m} \sum_{i=1}^m (y_i - d_i)^2 \quad ??$$

$$\text{RMSE} \quad \text{Error} = \sqrt{\frac{1}{m} \sum_{i=1}^m (y_i - d_i)^2} \quad ??$$

$$\checkmark \quad \text{Err}_m = \left(\frac{1}{2m} \right) \sum_{i=1}^m (y_i - d_i)^2$$

$$\checkmark \quad \boxed{\text{Err}_m = \left(\frac{1}{2} \right) \sum_{i=1}^m (y_i - d_i)^2} \quad \checkmark$$