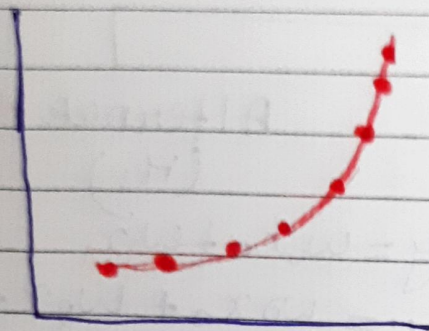


# Polynomial Linear Regression—



$$\hat{y} = \underbrace{m_0 x_1^0}_c + m_1 x_1 + m_2 x_1^2 + m_3 x_1^3$$

$$\Rightarrow \hat{y} = m_1 x + m_2 y + m_3 z + c$$

$\therefore m_1, m_2, m_3$  — unknown parameter  
if it's linear

and  $x_1, x_2, x_3$  — are known parameters

↳ that's why it's Linear Regression.

$$LR \Rightarrow \hat{y} = mx + c$$

$$MLR \Rightarrow \hat{y} = m_1x_1 + m_2x_2 + m_3x_3 + c$$

$$PLR \Rightarrow \hat{y} = m_1x_1 + m_2x_1^2 + m_3x_1^3 + c$$