

[Q2]

$n = 0 \text{ to } 5$

$$y(0) = \sum_{k=0}^2 x(n-k)h(k) = \sum_{k=0}^2 x(-k)h(k)$$

$$= h(0)x(0) + h(1)x(-1) + h(2)x(-2)$$

$$y(1) = \sum_{k=0}^2 x(1-k)h(k)$$

$$= h(0)x(1) + h(1)x(0) + h(2)x(-1)$$

$$y(5) = \sum_{k=0}^2 x(5-k)h(k) = h(0)x(5) + h(1)x(4) + h(2)x(3)$$

[Q3]

$$y(n) = \sum_{k=-\infty}^{\infty} x(k) \delta(n-k)$$

$$= \sum_{k=-\infty}^{\infty} x(k) \delta(n-k)$$

$$= \sum_{k=-\infty}^{\infty} x(k) \delta(k-n) = x(n)$$

$$x(n) \times \delta(n) = \underline{x(n)}$$