$$y(t) = x(t) + \sum_{i=1}^{m} A_i x(t-t_i)$$

a) $h(t)$ is the impulse response of the system. So $x(t) = \delta(t)$

$$h(t) = \delta(t) + \sum_{i=1}^{m} A_i \delta(t-t_i)$$

b) $F\{\delta(t)\} = 1$ and time shift in time domain is multiplying complex exponential in frequency domain. FT is linear. Therefore, using this properties FT of $h(t)$ can be found as:

$$H(w) = 1 + \sum_{i=1}^{m} A_i e^{-jwt_i}$$

c) Since $y(t) = x(t) * h(t)$ means $Y(w) = X(w) \cdot H(w)$ in frequency domain. i.e. convolution in time domain corresponds to multiplication in freq. domain.

d) So from the result in part c $X(w) = \frac{Y(w)}{H(w)}$, this means if we know $Y(w)$ and $H(w)$ we can find $X(w)$.