Chapter 1

intro

$z = (a+b)^4 = (a+b)^2(a+b)^2 = (a^2+2ab+b^2)(a^2+2ab+b^2) = a^4+4a^3b+6a^2b^2+4ab^3+b^4$

Chapter 2

intro1

$$
\begin{aligned}
z &= (a+b)^4 = (a+b)^2(a+b)^2 \\
&= (a^2+2ab+b^2)(a^2+2ab+b^2) \\
&= a^4+4a^3b+6a^2b^2+4ab^3+b^4
\end{aligned} \tag{2.0.1}
$$

$$
\begin{aligned}
z &= (a+b)^4 = (a+b)^2(a+b)^2 && (2.0.2)\\
&= (a^2+2ab+b^2)(a^2+2ab+b^2) && (2.0.3)\\
&= a^4+4a^3b+6a^2b^2+4ab^3+b^4 && (2.0.4)
\end{aligned}
$$

$$
\begin{aligned}
z &= (a+b)^4 = (a+b)^2(a+b)^2 \\
&= (a^2+2ab+b^2)(a^2+2ab+b^2) \\
&= a^4+4a^3b+6a^2b^2+4ab^3+b^4
\end{aligned} \tag{2.0.5}
$$

$$
\begin{aligned}
z &= (a+b)^4 = (a+b)^2(a+b)^2 \\
z &= (a^2+2ab+b^2)(a^2+2ab+b^2) \\
z &= a^4+4a^3b+6a^2b^2+4ab^3+b^4
\end{aligned} \tag{2.0.6}
$$

Chapter 3

intro2

$$\begin{aligned} z &= (a+b)^4 = (a+b)^2(a+b)^2 \\ &= (a^2+2ab+b^2)(a^2+2ab+b^2) \\ &= a^4+4a^3b+6a^2b^2+4ab^3+b^4 \end{aligned} \tag{3.0.1}$$

Indicator Function:

$$I_A(a) = \begin{cases} 1 & a \in A \\ 0 & a \notin A \end{cases}$$