

2.

$$d) B + A \cdot \bar{B} = \underbrace{(B + A)}_{\bar{B}} \cdot \underbrace{(B + \bar{B})}_B = B + A \cdot 1 = B + A //$$

$$\begin{aligned} (B + A) \cdot (B + \bar{B}) &= B \cdot B + B \cdot \bar{B} + A \cdot B + A \cdot \bar{B} = B + 0 + A \cdot B + A \cdot \bar{B} \\ &= B + A \cdot B + A \cdot \bar{B} = B(1 + A) + A \cdot \bar{B} = B \cdot 1 + A \cdot \bar{B} = B + A \cdot \bar{B} // \end{aligned}$$

$$e) A \cdot B + A = A(B + 1) = A \cdot 1 = A //$$

$$f) A \cdot B \cdot C + A \cdot B = A \cdot B \cdot (C + 1) = A \cdot B \cdot 1 = A \cdot B //$$

$$\begin{aligned} g) A \cdot \bar{B} + B \cdot (A + \bar{B}) &= A \cdot \bar{B} + B \cdot A + B \cdot \bar{B} = A \cdot \bar{B} + B \cdot A + 0 \\ &= A \cdot (\bar{B} + B) = A \cdot 1 = A // \end{aligned}$$

$$\begin{aligned} h) A \cdot B + A \cdot \bar{B} + A \cdot C + C &= A \cdot (B + \bar{B}) + C = A \cdot (1 + C) + C \\ &= A \cdot (1) + C = A + C // \end{aligned}$$