$\overline{xy}\,(\bar{x}+y)(y+\bar{y})$

$= \overline{xy}\,(\bar{x}+y)\cdot 1$ (Inverse Law)

$= \overline{xy}\,(\bar{x}+y)$ (Identity Law)

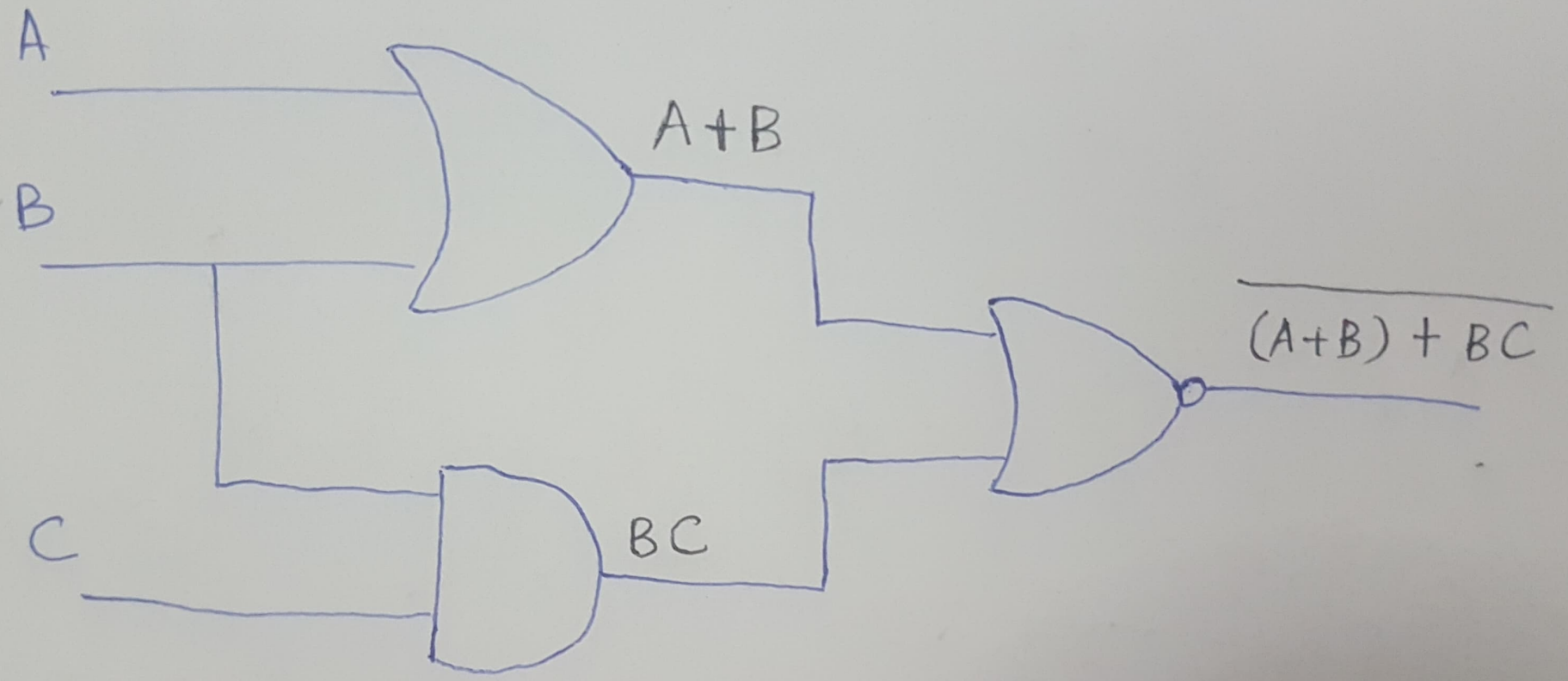
$= \overline{xy}\,\bar{x} + \overline{xy}\,y$ (Distributive Law)

$= \bar{x}+\bar{y}\,\bar{x} + \overline{xy}\,y$ (De Morgan's Law)

$= (\bar{x}+\bar{y}\,\bar{x}) + (\bar{x}+\bar{y}\,y)$ (De Morgan's Law)

$= \bar{x} + \bar{x}$ (Redundancy Law)

$= \bar{x}$ (Idempotent Law)



$\overline{(A+B)+BC}$

$$\overline{(A+B)+BC}$$

$$\overline{A+B} \cdot \overline{BC} \qquad \text{(De Morgan's Law)}$$

$$\overline{(A+B)+BC}$$

$$\overline{A+B} \cdot \overline{BC} \qquad \text{(De Morgan's Law)}$$