$$\overline{(\overline{x} \cdot y \cdot \overline{z})} \cdot \overline{(x \cdot y \cdot \overline{z})} \cdot (x \cdot \overline{y} \cdot \overline{z}) =$$

$$= (x + \overline{y} + z) \cdot (\overline{x} + \overline{y} + z) \cdot (x \cdot \overline{y} \cdot \overline{z})$$

$$= \left(\underset{0}{x\overline{x}} + \underline{\overline{x}\,\overline{y}} + z\overline{x} + x\overline{y} + \overline{y} + z\overline{y} + x\overline{z} + \overline{z}\,\overline{y} + \underset{0}{z\overline{z}} \right)(x \cdot \overline{y} \cdot \overline{z})$$

$$= \left[\overline{y}\underbrace{(\overline{x} + x)}_{1} + \overline{y}\underbrace{(z + \overline{z})}_{1} + z(\overline{x} + \overline{y}) + \overline{y} \right](x\,\overline{y}\,z)$$

$$= \left(\overline{y} + z\overline{x} + z\overline{y} \right)(x \cdot \overline{y} \cdot \overline{z})$$

$$= x \cdot \overline{y}\,\overline{y}\,\overline{z} + x\overline{y}\,\overline{z}\,z\overline{x} + z\overline{y}\,x\overline{y}\,\overline{z}$$

$$= x\overline{y}\,\overline{z} + 0 + 0 = x\overline{y}\,\overline{z}$$

① $\quad (\overline{x \cdot y}) + (\overline{x} \cdot y) + (\overline{x} \cdot \overline{y}) =$

$= (\overline{x} + \overline{y}) + (\overline{x}\, y) + (\overline{x}\,\overline{y}) = \overline{x} + \overline{y} + \overline{x}\, y + \overline{x}\,\overline{y}$

$\qquad\qquad\qquad\qquad\qquad = \overline{x} + \overline{y} + \overline{x}\,(y + \overline{y})$

$\qquad\qquad\qquad\qquad\qquad = \overline{x} + \overline{y} + \overline{x}$

$\qquad\qquad\qquad\qquad\qquad = \overline{x} + \overline{y}$