$gc \leftarrow$ good pkts count

$bc \leftarrow$ bad pkt count.

$tc \leftarrow$ total count.

$gdp \leftarrow \frac{gc}{tc}$ (good drop percent)

$bdp \leftarrow \frac{bc}{tc}$

how many good pkts left after pre-processing?

$$gc \cdot \left(1 - \frac{gc}{tc}\right) \quad ①$$

how many bad pkts left ?:

$$bc \cdot \left(1 - \frac{bc}{tc}\right) \quad ②$$

$$\frac{①}{②} = \frac{gc\,tc - gc^2}{tc} \cdot \frac{tc}{bc\,tc - bc^2} = \frac{gc\,tc - gc^2}{bc\,tc - bc^2}$$

$$= \frac{tc - bc)\,tc - (tc - bc)^2}{bc\,tc - bc^2} = \frac{tc^2 - bc\,tc - tc^2 + 2\,tc\,bc - bc^2}{bc\,tc - bc^2}$$

$$= \frac{tc\,bc - bc^2}{bc\,tc - bc^2} = 1.$$