

Solutions

2.1 $84 = 2^2 \cdot 3 \cdot 7$ and $126 = 2 \cdot 3^2 \cdot 7$, so the HCF is 42. Each of 42 packs has $84/42 = 2$ pencils and $126/42 = 3$ pens. This is maximal because any pack count must divide both totals. Each delivery share is $s = C/n = (18.60 \text{ CNY})/6 = 3.10 \text{ CNY}$; six shares return the original charge.

3.1 $7.95 \leq l < 8.05$ and $2.95 \leq w < 3.05$, in cm. Positivity makes product and quotient monotonic in the needed directions. Thus $23.4525 \leq A < 24.5525$ in square centimetres. For the dimensionless quotient, $7.95/3.05 < l/w < 8.05/2.95$, or $159/61 < l/w < 161/59$. Neither quotient endpoint is attained, since each requires one excluded upper measurement bound. The area lower bound is attained, since both lower bounds are allowed. Blindly using “upper over lower” without sign and endpoint checks is insufficient.

Local guidance: select and explain the relationship; calculate every requested result; check units, scope, conditions and completeness. These are authored classroom criteria.