

Solutions

2.1 For distance d in kilometres and cost C in CNY, $C = 8 + 3d$. Rearranging gives $d = (C - 8)/3 = (35 - 8)/3 = 9$ km. Substitution gives $8 + 3(9) = 35$ CNY. Adding the simultaneous equations gives $3x = 12$, so $x=4$ and $y=3$. Both equations check: $2(4) + 3 = 11$, $4 - 3 = 1$. The cost intercept represents the charge at zero distance, not the distance for zero cost.

3.1 The equation excludes $x=3$. Cancellation gives $x + 3 = x^2 - 5$, hence $x^2 - x - 8 = 0$ and $x = (1 \pm \sqrt{33})/2$. Neither is 3, so both remain. For the separate inequality, $(x - 5)(x + 1) \leq 0$ gives $-1 \leq x \leq 5$, including both zero endpoints. Completing the square gives $y = (x - 2)^2 - 9$; its turning point is $(2, -9)$, a minimum, with roots -1 and 5. Do not confuse the two different quadratics.

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