

Solutions

Accept equivalent correct methods and supported interpretations. The marks check reasoning; they are not an official grade.

2.1 B – Fixed fee 5 plus $2 \cdot 7=19$. A adds distance to fee; C omits the fixed fee; D multiplies fee by distance. None evaluates $5+2 \times 7$.

Correct response linked to the given case.

2.2 C – A constant offset suggests the fixed contribution is low. A changes shape despite a constant offset; B discards useful evidence; D changes units inconsistently. An intercept check targets the observed fixed error.

Correct response linked to the given case.

2.3 3 – $3 \text{ m}=300 \text{ cm}$, divided by 100.

Correct response linked to the given case.

2.4 False – It overlaps other reporting categories.

Correct response linked to the given case.

3.1 Area $A = LW = (5 \text{ m})(4 \text{ m}) = 20 \text{ m}^2$. Required material $Q = 1.10A = 22 \text{ m}^2$. Cost $C = pQ + d = (35 \text{ yuan/m}^2)(22 \text{ m}^2) + 60 \text{ yuan} = 830 \text{ yuan}$. Plan dimensions are $500/50 = 10 \text{ cm}$ and $400/50 = 8 \text{ cm}$. Wastage is on area, not on both side lengths.

Sound conclusion or proposed method. Relevant supporting steps or textual evidence. Accurate conditions, checks or qualification.

3.2 A constant residual suggests raising the intercept by 5 to $C = 11 + 4d$. A residual systematically growing with distance would suggest checking the per-kilometre rate. Neither pattern alone proves the reason; check fee definitions and other conditions.

Sound conclusion or proposed method. Relevant supporting steps or textual evidence. Accurate conditions, checks or qualification.