Solutions

2.1

- Relevant cost = $1.90 + 0.10 = £2.00$ a cup.
- Contribution = $(2.35 - 2.00) \times 900 = £315 \rightarrow$ accept.
- Gate 1: idle capacity – 900 fits inside the 1,800-cup slack ✓.
- Gate 2: the £2.35 price must not leak to regular £4.00 customers.

2.2

- Avoidable internal = $1.90 + 200/5{,}200 = 1.90 + 0.038 = £1.94$ a cup.
- Bid $£2.60 > £1.94 \rightarrow$ keep making.
- The remaining ~£0.62 of "cost" per cup is fixed or allocated – no vote.

2.3

- A: $1.60/0.10 = £16.00$ per kg; B: $2.10/0.15 = £14.00$ per kg.
- Rank by CM per scarce kg $\rightarrow$ fill with A first.
- A uses $5{,}200 \times 0.10 = 520$ kg... pulp is capped at 300: cap A at $300/0.10 = 3{,}000$ smoothies worth £4,800.
- Maximum contribution = $3{,}000 \times 1.60 = £4{,}800$ (mix A-only under the 300 kg cap).

2.4

- Book value £6,000: sunk – constant across alternatives.
- Trade-in £1,500: relevant – a future cash flow that differs.
- Maintenance £400: not relevant – occurs either way.

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