Solutions

Marking: **K** knowledge, **App** application to the case, **An** analysis (a developed chain of reasoning), **Ev** evaluation (a justified judgement); calculations earn **M1** for the method and **A1** for the answer.

Each answer shows the steps, then the **result**.

2.1

- before: $240 \div 8 = \mathbf{30}$ boxes per worker
- after: $320 \div 10 = \mathbf{32}$ boxes per worker

2.2

- workers are **expensive**, while robots work long hours at a steady quality (K)
- so using machines gives a lower **average cost** per car (An)

2.3

- **purchasing** economy: it buys in **bulk** (K)
- so suppliers give discounts, lowering the cost per unit of output (An)

3.1

B

3.2

(a)

- before: $200\,000 \div 4000 = \$\mathbf{50}$
- after: $1\,200\,000 \div 40\,000 = \$\mathbf{30}$

(b) two economies, each explained (K + App each):

- **purchasing**: bulk-buying wood and fabric at a discount
- **technical**: large cutting machines that a small firm could not use fully
- **managerial**: specialist managers for sales and production
- **financial**: cheaper loans to buy equipment

(c) a developed chain, for example:

- as the firm grows, there are more layers of **management** (K)
- **communication** becomes slow and messages are lost (An)
- departments are hard to **co-ordinate**, so mistakes and delays rise (App)
- workers feel less valued, so **motivation** and productivity fall (An)
- so the cost of each chair rises: **diseconomies of scale** (An)

(d) robots: (An)

- higher productivity and steady quality; lower average cost in the long run; no wage rises or strikes

workers: (An)

- robots are expensive to buy and maintain; fewer workers means lost jobs and local spending
- skilled hand finishing may be what customers want; workers can adapt to new designs quickly

judgement: (Ev) for example, use robots for repetitive cutting and keep skilled workers for finishing and design, because this cuts costs where machines are best without losing quality or flexibility.

Level 3 (6–8): both sides analysed and a justified judgement. Level 2 (3–5): one side analysed or both explained. Level 1 (1–2): simple points.