Solutions

Marking: **M1** a correct method, **A1** the correct answer, **B1** an independent mark.

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

2.1

the minimum level of stock kept; to meet demand if a delivery is late or demand rises unexpectedly

2.2

the time between placing an order for stock; and receiving it

2.3

$3\,600 \div 5\,000 \times 100 = \mathbf{72}\%$; problem: fixed costs are spread over fewer meals, so average cost per meal is high; explained, e.g. lower profit margin or higher prices than rivals

2.4

maximum stock 800 units; buffer stock 200 units; reorder level 500 units; lead time 2 weeks

2.5

CTM $= 10\,000 + 6 \times 2\,000 =$ **\$22 000**; CTB $= 10 \times 2\,000 =$ **\$20 000**; buy, as it is \$2,000 cheaper; equal when $10\,000 + 6Q = 10Q$, so $Q =$ **2 500** parts

3.1

(a) JIT: stock arrives only when needed for production; advantage: lower storage costs, less cash tied up; JIC: extra stock is kept in case of problems; advantage: production continues if deliveries are late or demand rises

(b) award up to [10]: JIT cuts storage costs and frees cash from three weeks of stock; less waste and damage of stored materials; car makers often use JIT, so AutoParts may need to match their methods; but suppliers are abroad, so lead times are long and risky; the blocked port shows that a ten-day delay would stop production under JIT; late parts could stop customers' assembly lines and lose contracts; possible compromise: JIT for local or reliable inputs, buffer stock for imported ones / find local suppliers; judgement linked to the case

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