Costing/inventory models

6 questions | 12 marks

Equivalent correct methods earn the corresponding marks.

1. Find order costs for $Q = \begin{pmatrix} 2 & 5 \\ 4 & 1 \end{pmatrix}$ and $P = \begin{pmatrix} 7 \\ 3 \end{pmatrix}$. [2 marks]

$2(7) + 5(3) = 29$.

$4(7) + 1(3) = 31$.

Answer: $\begin{pmatrix} 29 \\ 31 \end{pmatrix}$ dollars.

2. Stock is $\begin{pmatrix} 20 \\ 15 \\ 8 \end{pmatrix}$ and sales $\begin{pmatrix} 7 \\ 4 \\ 3 \end{pmatrix}$. Find remaining stock. [2 marks]

Subtract each sold count.

$20 - 7 = 13$, $15 - 4 = 11$, $8 - 3 = 5$.

Answer: $\begin{pmatrix} 13 \\ 11 \\ 5 \end{pmatrix}$.

3. A quantity matrix has 3 shop rows and 4 product columns. What order must a price column have? [2 marks]

Four rows match the products.

One column produces one cost per shop.

Answer: 4×1.

4. Three items priced p dollars each and two items priced 4 dollars each cost 29 dollars. Find p. [2 marks]

$3p + 8 = 29$.

$p = 21/3 = 7$.

Answer: 7 dollars.

5. A stock calculation returns -2 items. Give a sensible response. [2 marks]

A negative count is impossible.

Check deliveries, sales and subtraction order.

Answer: Reconcile the records before reporting stock.

6. A subtotal of 80 dollars attracts a uniform 10% delivery surcharge. Find the total. [2 marks]

The surcharge is $0.10(80) = 8$ dollars.

Add it once: $80 + 8 = 88$.

Answer: 88 dollars.