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]

$3p + 8 = 29$.

$p = \frac{21}{3} = 7$.

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.