

Cambridge O Level MATHEMATICS (SYLLABUS D) 4024

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Paper 2 Calculator

May/June 2024

Questions (1)

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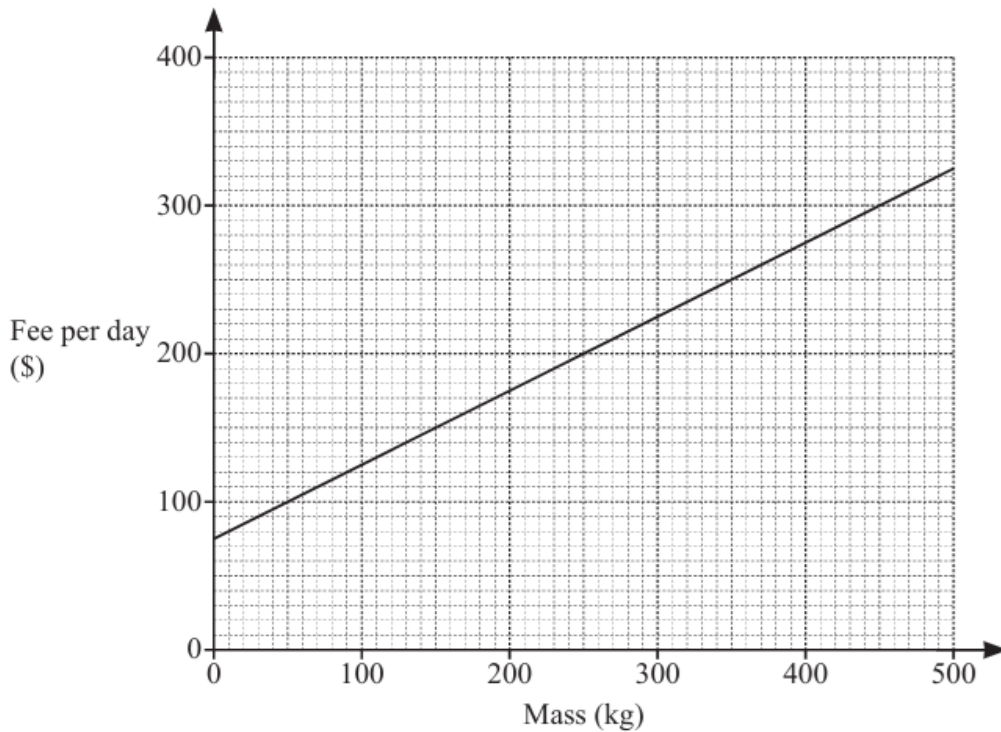
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- 1 (a) Oranges cost \$1.45 per kilogram.
Asher buys 1.2 kg of oranges.

Find the change he receives from \$10.

\$ [1]

- (b) Maria pays a fee to sell strawberries at a market.
Each day she pays \$75 plus a payment for the mass of strawberries she sells.
The fee Maria pays per day is shown on the graph.



- (i) One day Maria's fee is \$240.

Use the graph to find the mass of strawberries she sells that day.

..... kg [1]

- (ii) On Saturday Maria sells 270 kg of strawberries.
On Sunday she sells 220 kg of strawberries.

Find the **total** fee she pays for these two days.

\$ [2]

- (iii) The fee per day for Maria now increases.
Each day she now pays \$90 plus a payment of \$60 for every 100 kg of strawberries she sells.

On the grid, draw a line to represent this new fee when she sells 0 kg to 500 kg of strawberries in a day.

[2]

- (c) Write the ratio $1.6 \text{ kg} : 600 \text{ g} : 2.4 \text{ kg}$ in its simplest form.

..... : : [2]

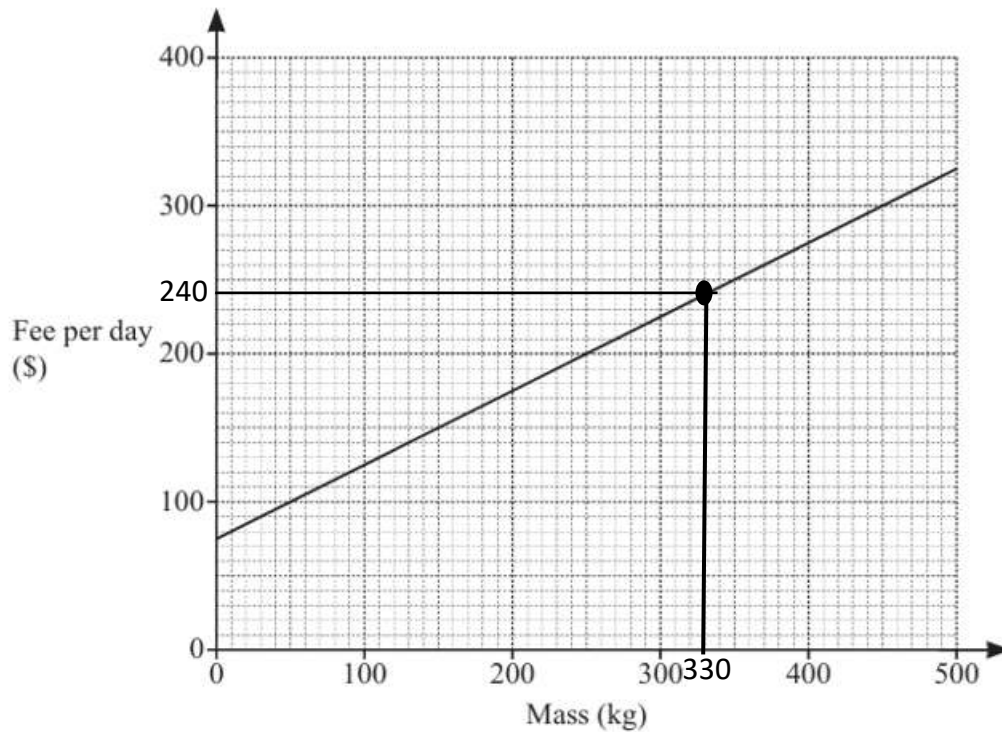
Solution:

$$\begin{aligned}
 \text{(a) orange cost per kg} &= \$1.45 \\
 \text{cost of } 1.2 \text{ kg of orange} &= 1.45 \times 1.2 \\
 &= 1.74 \\
 \text{change received from } \$10 & \\
 &= 10 - 1.74 \\
 &= \$8.26
 \end{aligned}$$

(b) (i)

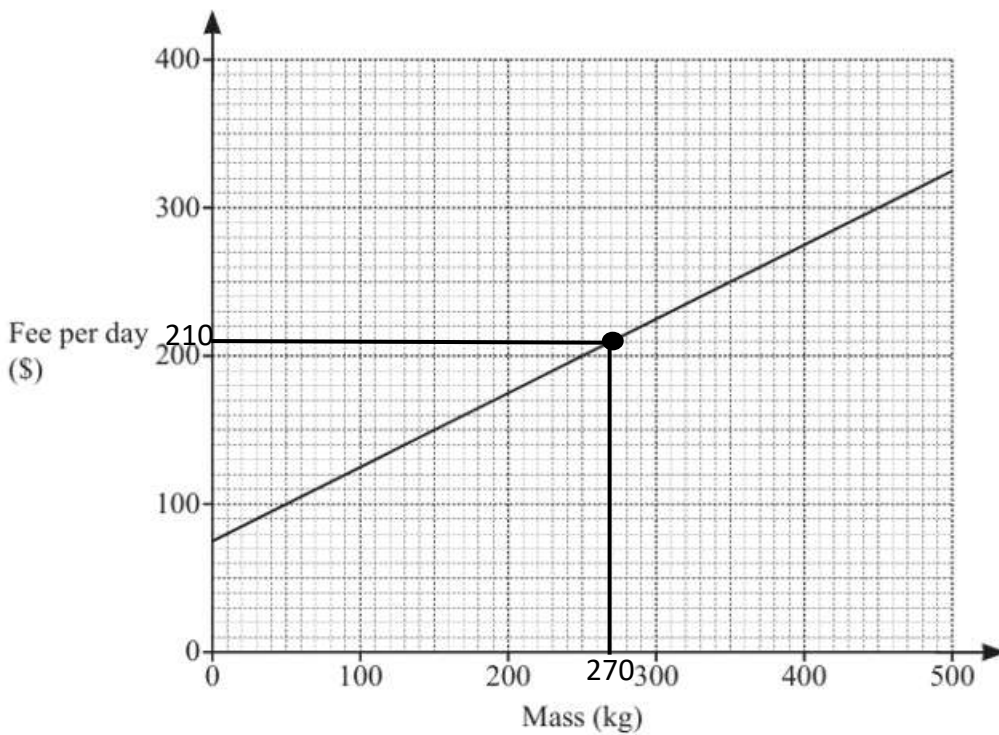
First find \$240 on vertical axis (Fee per day)

Then draw a horizontal line that cut the graph as shown below. From point of intersection draw the vertical line that cut the x-axis (mass kg) at 330 kg.



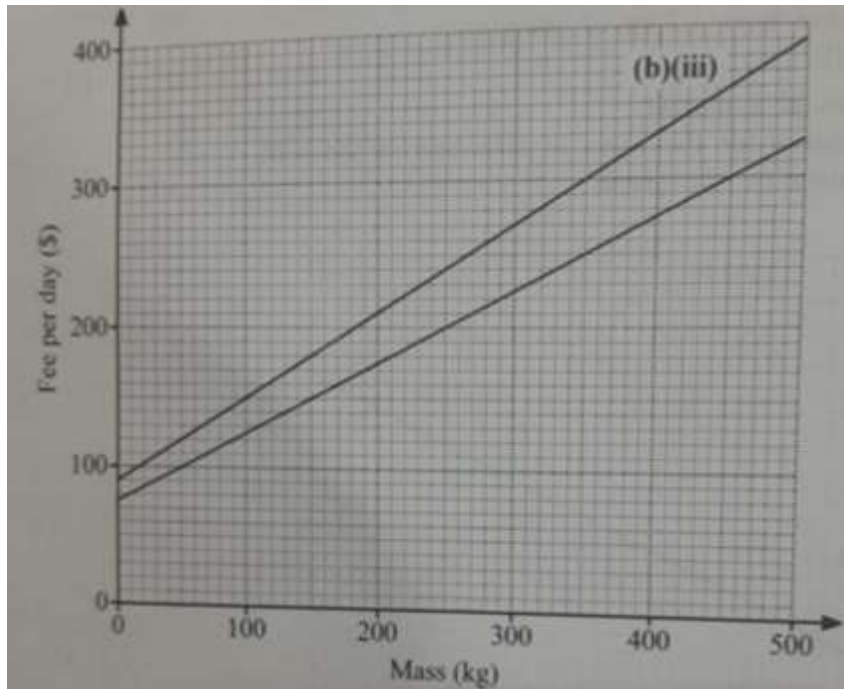
(ii) locate 270 kg on mass (kg) axis and draw a vertical line that cut the graph at a point. From this point draw a graph towards axis (Fee per day) that cut the axis at \$210.
 Similarly for Sunday fee is \$185

$$\begin{aligned} \therefore \text{total fee is} \\ &= \$210 + \$185 \\ &= \$395 \end{aligned}$$



(iii) In the graph on vertical axis (Fee per day)

we shall start graph from \$90 and draw it upto 500 kg as given in statement. check the graph below.



(graph starts from (0, 90) and subsequent points increased by \$60 for every 100 kg)

(c)

$$1.6 \text{ kg} : 600 \text{ g} : 2.4 \text{ kg}$$

$$1600 \text{ g} : 600 \text{ g} : 2400 \text{ g} \quad \rightarrow 100 \text{ common}$$

$$16 \text{ g} : 6 \text{ g} : 24 \text{ g} \quad \rightarrow 100 \text{ common}$$

$$8 : 3 : 12 \quad \rightarrow 2 \text{ common}$$

