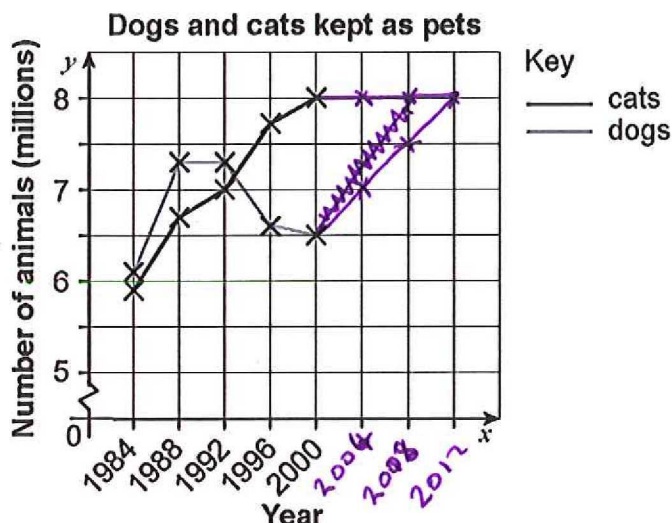


Q1. The graph shows the number of cats and dogs kept as pets from 1984, in millions in the UK.



- (a) What is the least number of dogs kept as pets? Write this number in figures.

(B1)

$\approx 6,200,000$
 $\pm 1,00,000$ (1)

- (b) Between which years was the number of dogs kept as pets most stable?

(B1)

1988 - 1992

(1)

- (c) Describe the general trend since 1984 of the number of cats kept as pets.

(B1)

anything to indicate an upwards trend

(1)

- (d) Describe the general trend since 1992 of the number of dogs kept as pets.

(B1)

anything to indicate a downwards trend

(1)

In 2012 there were 8 million cats and 8 million dogs kept as pets.

(B1) - scale done correctly

- (e) Continue the lines on the graph from 2000 to 2012 (estimated positions).

(B1) both lines done as above

- (f) Comment on the trends shown by your added lines.

Cats - stable / no change

(B1)

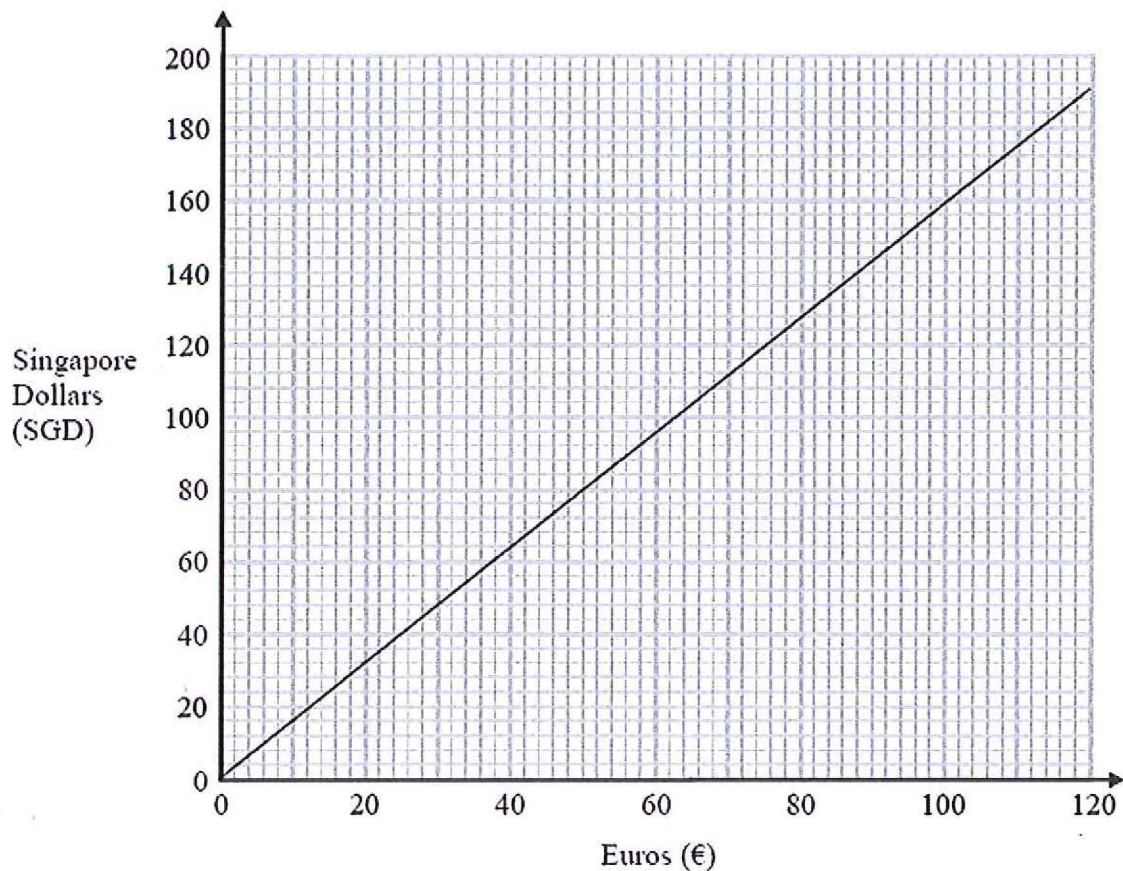
Dogs - upwards / increasing

(B1)

(4)

(8 marks)

Q2. You can use this graph to convert between euros (€) and Singapore Dollars (SGD).



(a) Convert 50 euros to Singapore Dollars.

(B1)

..... 80 SGD

(1)

(b) Convert 90 Singapore Dollars to euros.

(B1)

..... 57±1 euros

(1)

(c) Convert 625 euros to Singapore Dollars.
Show your working clearly.

50 euros = 80 SGD

600 euros = 80 × 12 = 960 SGD (M1)

25 euros = 40 SGD

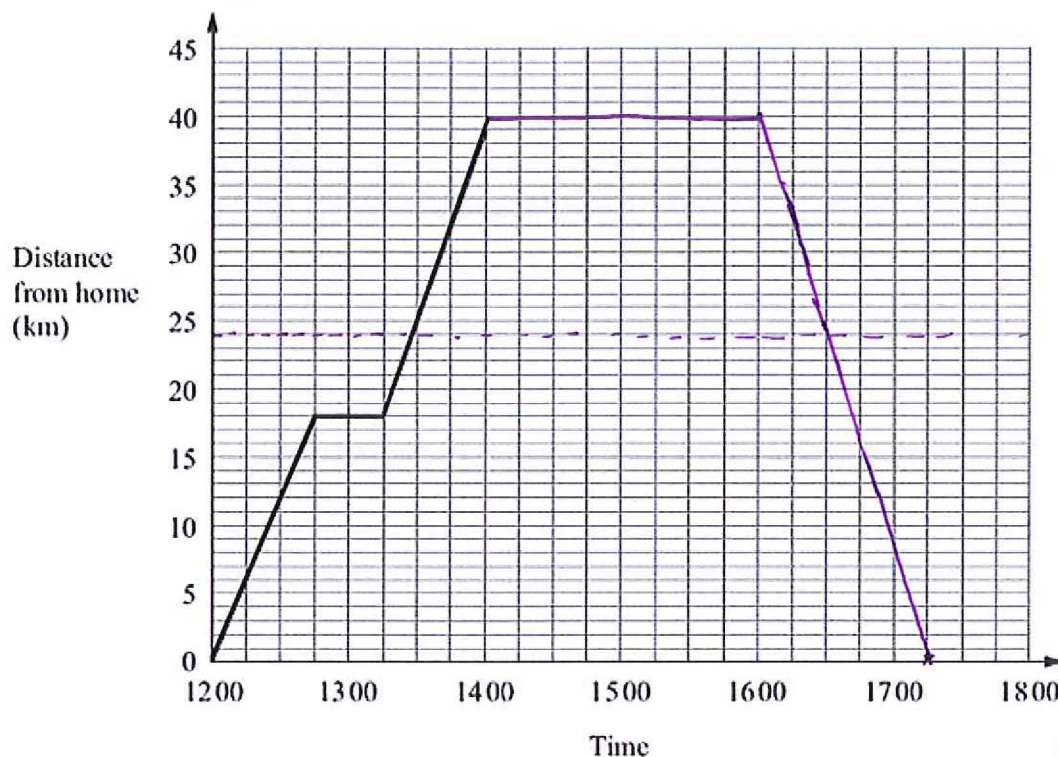
625 euros = 1000

(A1) (B1)

..... 1000 SGD

(3)
(5 marks)

- Q3. Bhavik left his home at 12 00 to cycle to Sam's house. On the way Bhavik stopped for a rest, and then continued his journey. The distance-time graph shows his journey.



- (a) (i) For how many minutes did Bhavik stop for a rest?

(B1)

..... 30 minutes

- (ii) After his rest, how many more kilometres did Bhavik cycle to Sam's house?

..... 22 km
(2)

- (b) Bhavik stayed at Sam's house for 2 hours. (B1)

He then cycled back to his home.

He arrived home at 17 15.

Show all this information on the graph.

(2)

- (c) Write down the times at which Bhavik was 24 kilometres from his home.

(B1) 13:25 → 13:30

(B1) 16:30
(2)

- (d) Work out the average speed, in kilometres per hour, of Bhavik's journey to and from Sam's house.

$$s = \frac{d}{t}$$

(M1) $= \frac{40}{2}$

$= 20 \text{ km/h}$

$$s = \frac{d}{t}$$

$= \frac{40}{1.25}$ (M1)

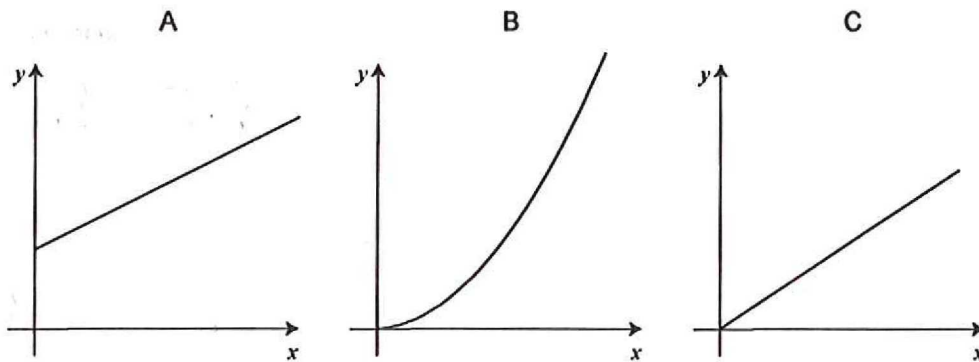
$=$

To Sam's house..... 20 km/h (A1)

Back home..... 32 km/h
(A1) (4)

(10 marks)

Q4. Look at these sketch graphs.



(i) Which graph shows direct proportion?

C B1

(1)

(ii) Explain how you know.

origin B1
linear relationship B1

(2)

(3 marks)

Q5. To hire a villa for 6 people in Portugal Peter pays an initial charge and then a charge per night. Some prices are shown in the table.

Number of nights	0	7	14
Price (£)	200	1250	2300

(a) Show this information on the given axes.



B1

(1)

(b) From your graph estimate the cost of a holiday of 11 nights.

allow ft marks
B1 $\text{£}1850 \pm \text{£}50$
(1)

(c) What is the initial charge?

B1 $\text{£}200$
(1)

(d) What is the cost per night?

B1 $\text{£}150$
(1)

(e) Using your answers to parts c and d, calculate the cost of staying in this villa for 12 nights. Show your working.

$$200 + (12 \times 150)$$

M1
allow ft marks

A1
 $\text{£}2000$
(2)

(f) Which of your answers, b or e, is likely to be the most accurate and why?

e With any reasonable explanation

B1

(1)

(7 marks)

Q6.

- (a) The diagram shows a swimming pool in the shape of a prism.

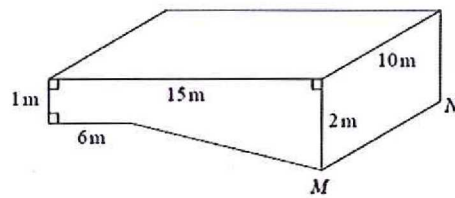
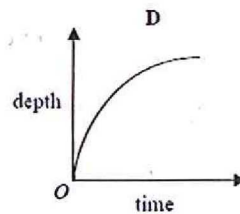
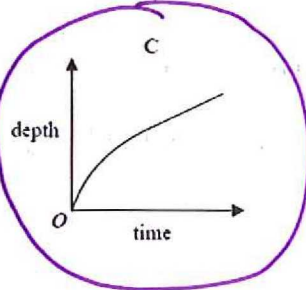
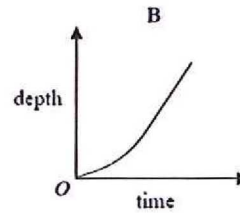
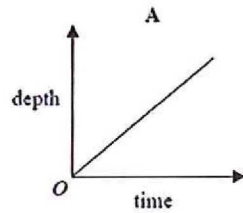


Diagram NOT
accurately drawn

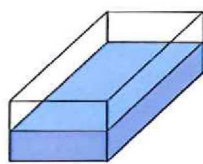
Circle the graph that would represent the depth of the swimming pool as it filled.



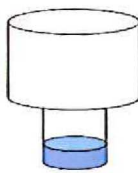
(B)

(1)

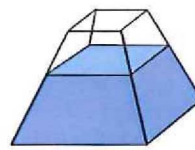
- (b) Water is filled into each container at a constant rate. Match each shape with the graph that would show the depth over time.



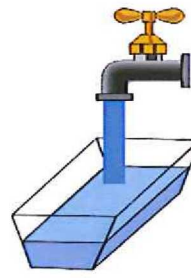
A



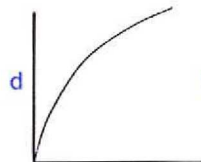
B



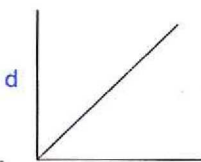
C



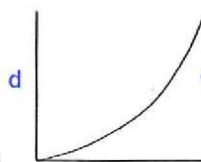
D



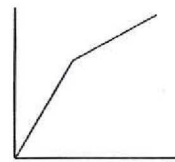
1



2



3



4

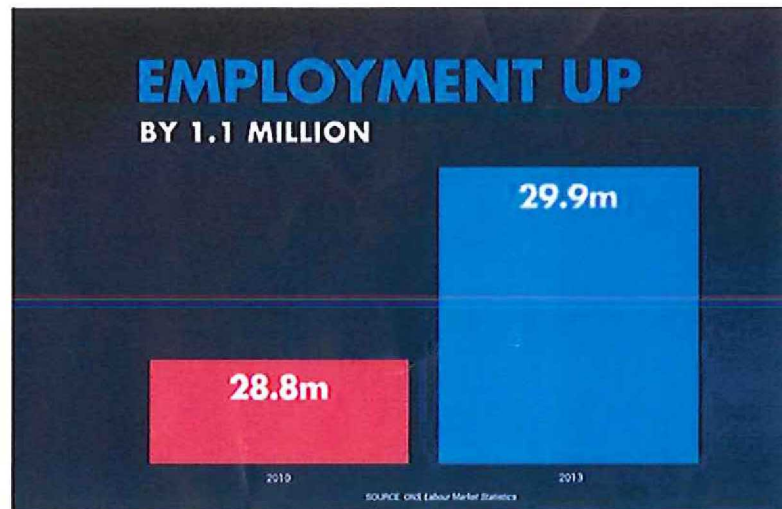
(A1) 2 or more
correct
answers

(A2) all correct

A 2
B 4
C 3
D 1

(2)
(3 marks)

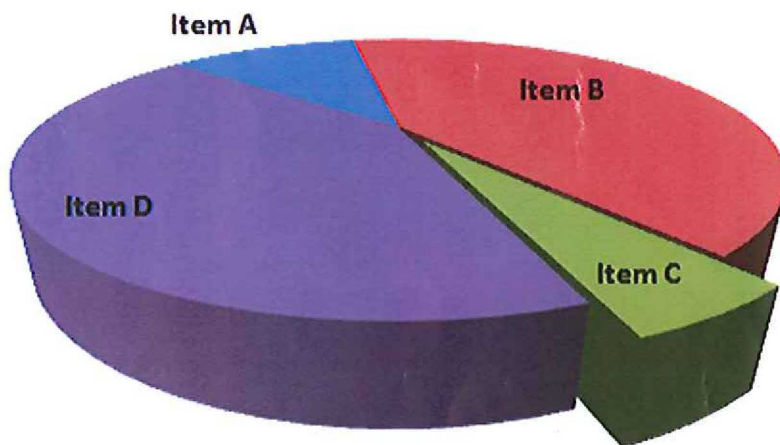
Q7.



(a) This is a graph released by the government in 2013. Explain what is misleading about this graph

- ⑬① - difference of 1.1 million is not proportionate to percentage increase (or similar)
- ⑬① - lack of scale (or anything similar)

(2)

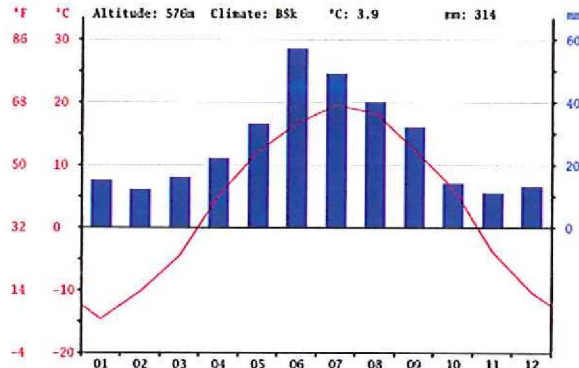
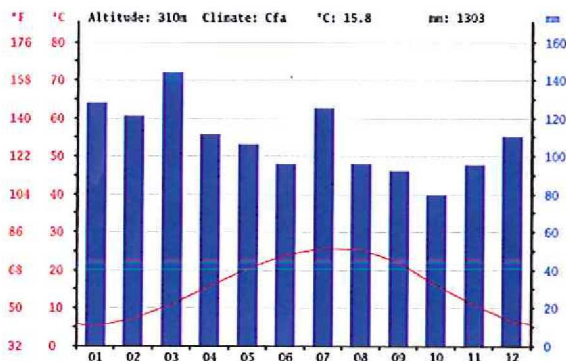


(b) Explain how the pie chart above could be misleading.

- ⑬① - mention of 3D graph
- ⑬① - difficult to compare sectors (or anything similar)

(2)
(4 marks)

Q8. Below are the graphs of two random cities, displaying the temperature and rainfall over a year.



(a) Explain why it is difficult to compare these graphs

- scales (B1) for each, up to max 2 marks
- where zero is
- amount of information on each graph
- you can't see red line clearly through the blue bars
- etc..

(2)

(b) What would be a better way to compare temperature and rainfall?

TEMP - dual bar graph* (B1)
 RAIN - line graph* (B1)
 *(or anything similar)

(2)

(4 marks)