

Delta 2

Unit 4 Review (Non-Calculator)

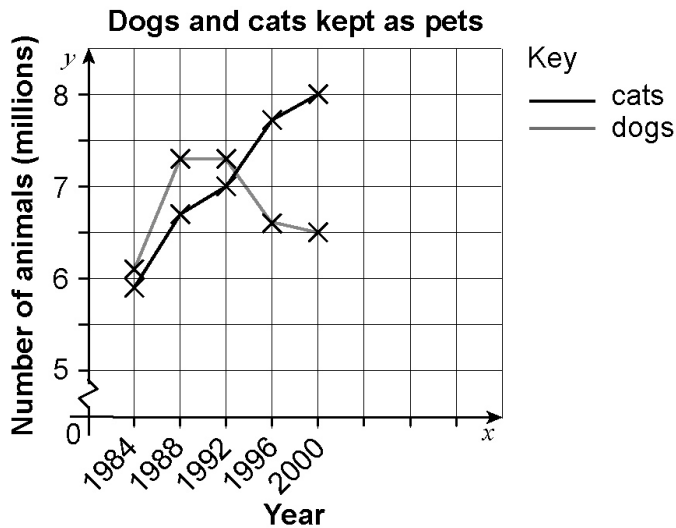
Real-Life Graphs

How well did you do:

Real Life Graphs	Score = $\frac{\quad}{44}$	
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<i>Topics/skills which need to be revisited:</i>	<i>Question from the review</i>	<i>Further Practice from Delta 2</i>
• Interpret conversion graphs (direct proportion) • Use conversion graphs to predict values outside the range • Recognise a graph in direct proportion and its main features	• 2ab • 2c • 4	• P94 Q1ac • P94 Q1b • P91 Q1,2
• Interpret axes/scales/values from graphs • Describe general trends of a graph • Draw line graph from information given • Interpret financial graphs • Understand the limitations of graphs, compared to formulae	• 1ab • 1cdf • 1e • 5a-e • 5f	• P93 Q3abc • P93 Q3d • P100 Q9 • P91 Q4 • Just remember that answers read from graphs are always estimates since we use our eye to read-off a line. Formulae are exact.
• Interpret distance-time graphs • Draw distance-time graphs from given information • Calculate average speed from distance-time graphs	• 3ac • 3b • 3d	• P92 Q1 • P92 Q2 • P92 Q3b-f
• Match graphs of rate-of-change to real-life events	• 6	• P90 Q7
• Explain why graphs are misleading and how to make them better	• 7,8	• Look at https://www.statisticshowto.datasciencecentral.com/misleading-graphs/

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.

.....
(1)

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

.....
(1)

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

.....
.....
(1)

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

.....
.....
(1)

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

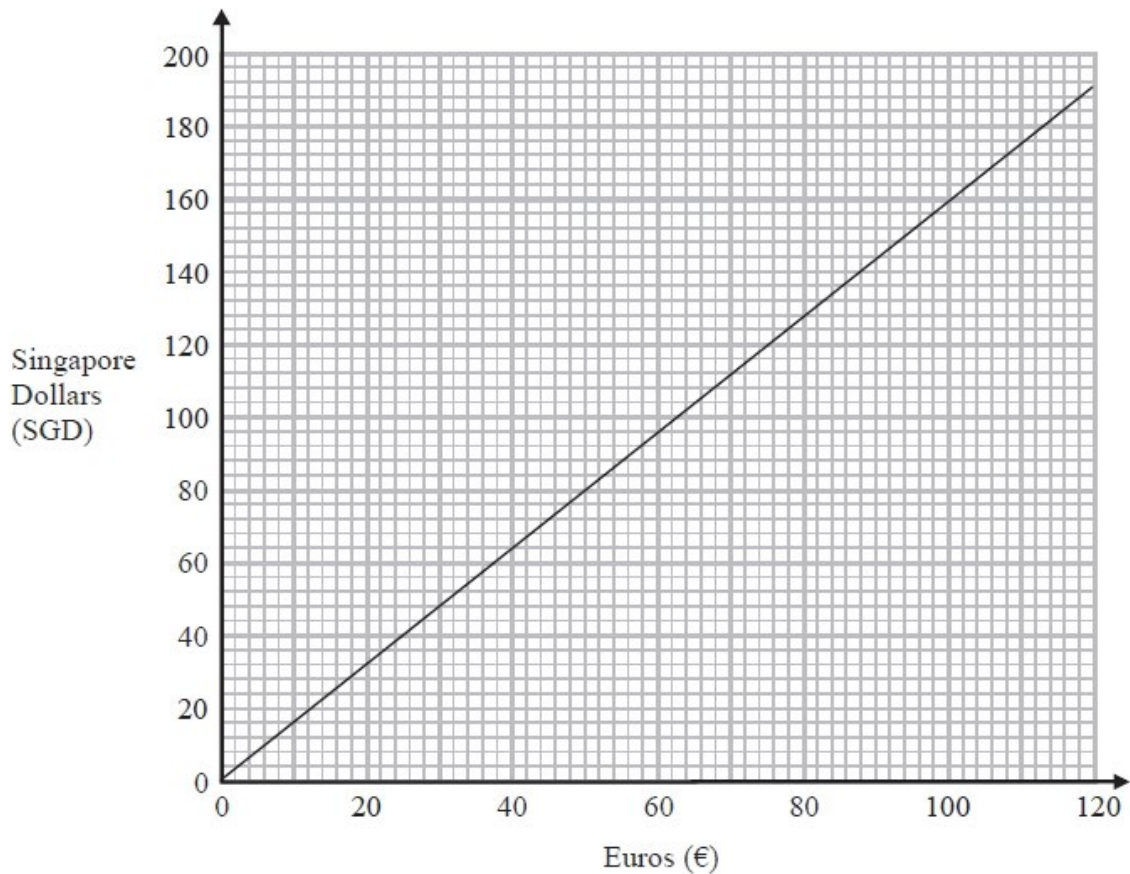
- (e) Continue the lines on the graph from 2000 to 2012 (estimated positions).

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

.....
.....

(4)
(8 marks)

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



(a) Convert 50 euros to Singapore Dollars.

..... SGD
(1)

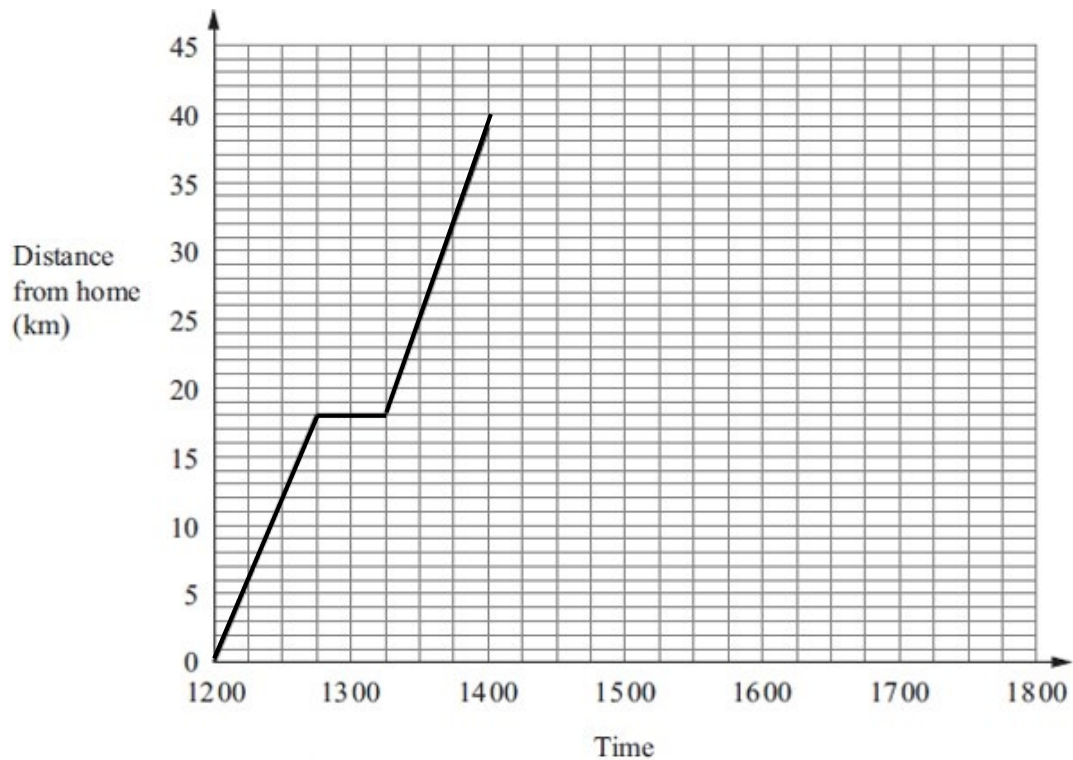
(b) Convert 90 Singapore Dollars to euros.

..... euros
(1)

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

.....
(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?

..... minutes

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

..... km
(2)

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

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.

.....

.....
(2)

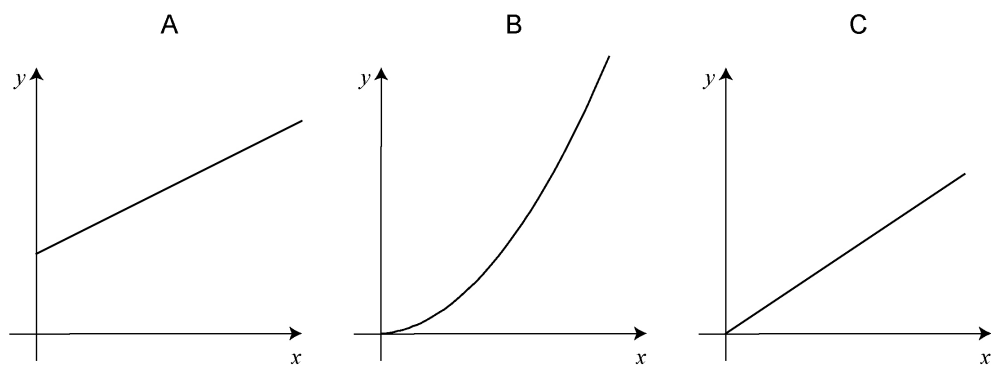
- (d) Work out the average speed, in kilometres per hour, of Bhavik's journey to and from Sam's house.

To Sam's house..... km/h

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

(10 marks)

Q4. Look at these sketch graphs.



(i) Which graph shows direct proportion?

.....

(1)

(ii) Explain how you know.

.....

.....

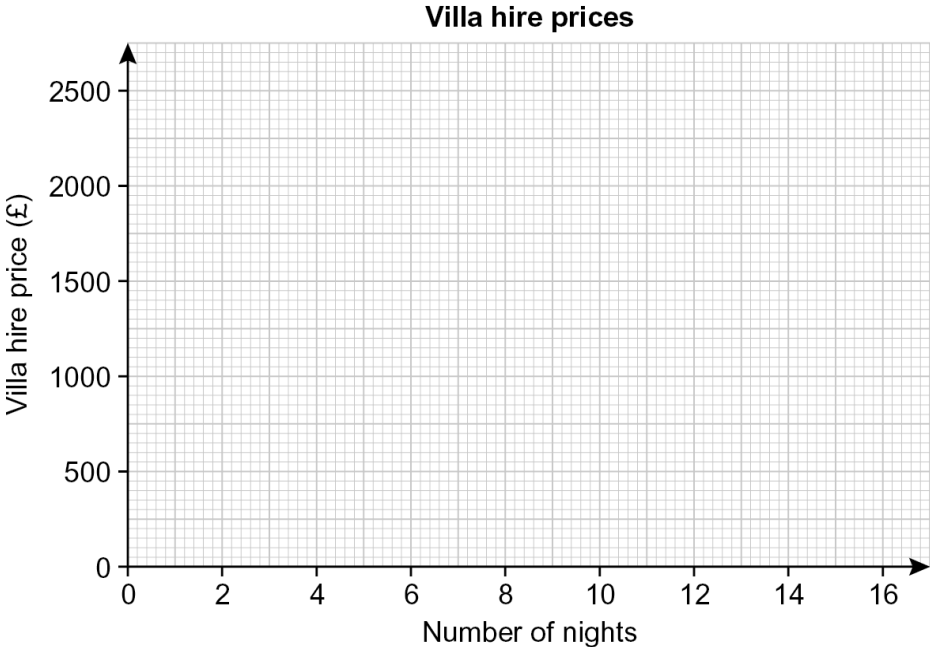
(2)

(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.



(1)

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

.....
(1)

(c) What is the initial charge?

.....
(1)

(d) What is the cost per night?

.....
(1)

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

.....
(2)

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

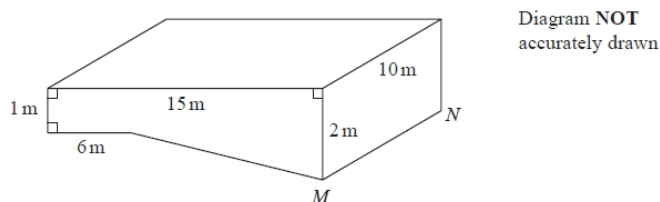
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(1)

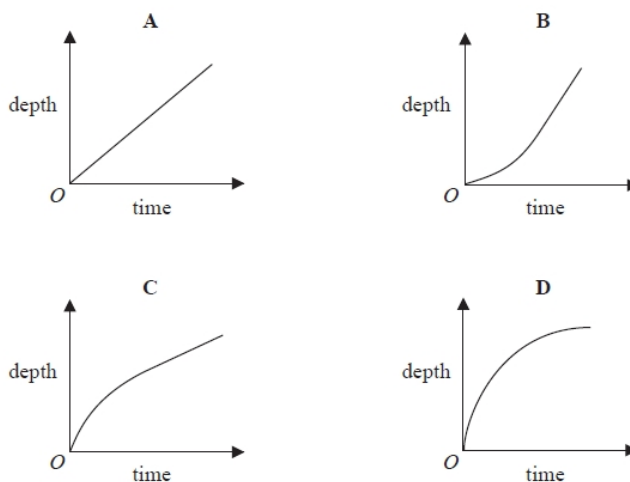
(7 marks)

Q6.

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

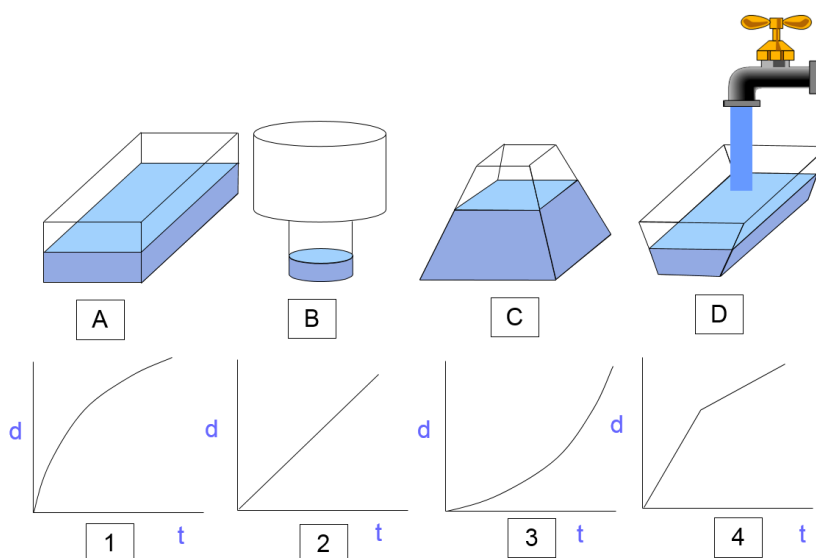


Circle the graph that would represent the depth of the swimming pool as it filled.



(1)

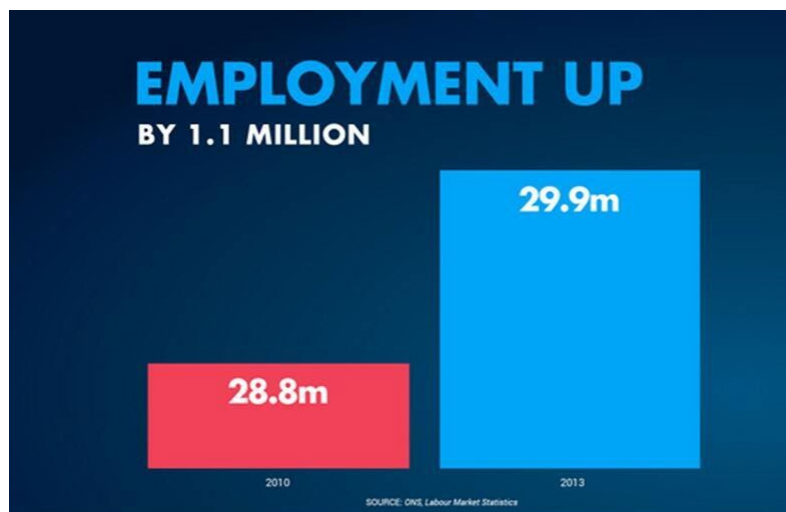
(b) Water is filled into each container at a constant rate. Match each shape with the graph that would show the depth over time.



A.....
B.....
C.....
D.....

(2)
(3 marks)

Q7.



(a) This is a graph released by the government in 2013. Give 2 reasons why this graph is misleading.

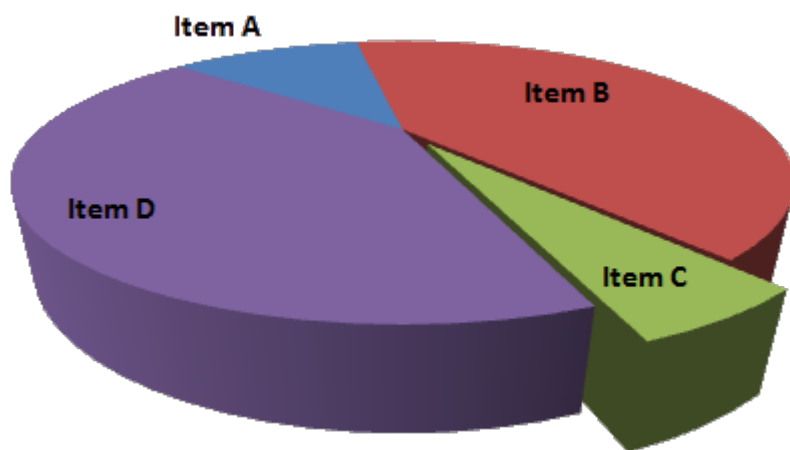
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(2)



(b) Give 2 reasons how the pie chart above could be misleading.

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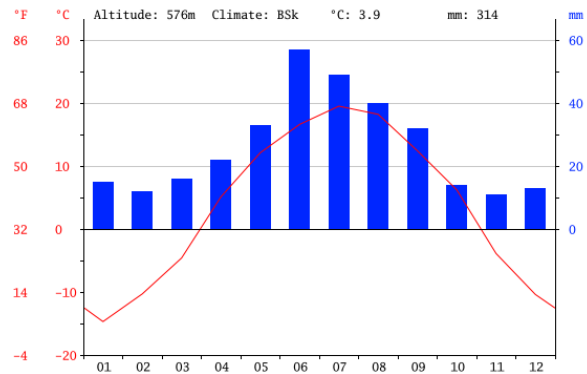
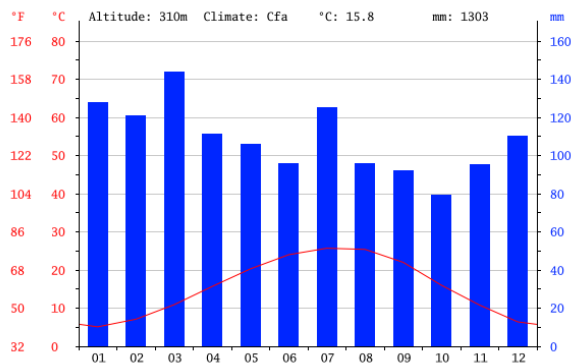
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(2)
(4 marks)

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



(a) Give 2 reasons why it is difficult to compare these graphs

.....

.....

.....

.....

(2)

(b) What would be a better way to compare temperature of the two cities and rainfall for the two cities?

Temp.....

.....

.....

Rainfall.....

.....

.....

(2)
(4 marks)