Level 1 Functional Skills Mathematics
Sample paper 1

Duration: 1 hour 45 minutes

This is the time permitted for the whole paper which has two sections.
Section 1 is worth 15 marks
Section 2 is worth 45 marks
Make sure you allow enough time for both sections.

Section 1 – Non-calculator

Candidate name (first, last)

First

Last

Candidate enrolment number   Date of birth (DDMMYYYY)

Assessment date (DDMMYYYY)   Centre number   Candidate signature and declaration*

*I declare that I had no prior knowledge of the questions in this assessment and that I will not share information about the questions.

You should have the following for this assessment:
- a pen with black or blue ink
- a pencil
- an eraser
- a 30cm ruler
- a protractor.

You must NOT use a calculator for Section 1.

General instructions
- Read through each question carefully.
- Write all your answers in this booklet.
- Check your calculations and check that your answers make sense.
- You must hand this section in before you can pick up your calculator to begin Section 2.

These materials are draft and subject to
Technical Evaluation by Ofqual

Section 1 – Non-calculator

There are **15** marks available in this section.

You should check all your work as you go along.

You must **not** use a calculator in this section.

Q1.

4 + 3 x 2 =

_____

(1 mark)

Q2.

25^2 =

_____

(1 mark)

Q3.

What is $\frac{2}{5}$ as a decimal?

_____

(1 mark)

Q4.

−12 + 13 =

(tick one box)

A ☐   1

B ☐   − 1

C ☐   25

D ☐   − 25

(1 mark)

Q5.

60% of 300g is

(tick one box)

A ☐ 18g

B ☐ 50g

C ☐ 180g

D ☐ 200g

(1 mark)

Q6.

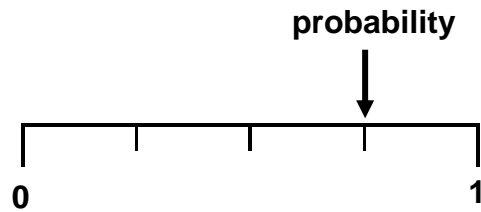| 155	125	145	95	150	155
125	99	100	178	95	180

What is the range of these numbers?

_____

(1 mark)

Q7.

What is $\frac{1}{3}$ of 270g ?

_____ g

(1 mark)

Q8.

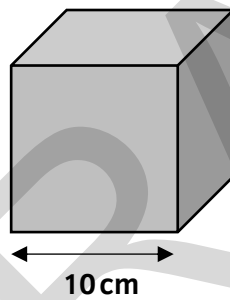This scale shows the probability that something will happen.

probability

0   1

What probability does the scale show?

(tick one box)

A ☐ impossible

B ☐ certain

C ☐ unlikely

D ☐ likely

(1 mark)

Q9.

10 cm

What is the volume of this cube?

_____ **cm³**

(1 mark)

Q10.

$5\frac{2}{5}$ is the same as

$$\frac{\boxed{}}{5}$$

(1 mark)

Q11.

A customer wants to buy a coat in a clothes shop. The price ticket says £45

He has a voucher for 30% off the price of one item.

How much money will he get off the price of the coat?

£ _____

(1 mark)

Q12.

A sandwich shop owner makes 1 sandwich with brown bread for every 4 sandwiches he makes with white bread.

Today he needs to make 600 sandwiches altogether.

How many sandwiches should he make with brown bread today?

_____ **sandwiches**

(1 mark)

Q13.

Jon is a checkout assistant in a supermarket.

There are 5 checkouts and 5 assistants. The supervisor allocates the checkouts to the assistants randomly at the start of each day.

No one likes the checkout next to the door.

What is the probability that Jon will have the checkout next to the door today?

Give your answer as a fraction in its simplest form.

$$\frac{\boxed{}}{\boxed{}}$$

(1 mark)

Q14.

A van has a fuel tank that holds 60 litres when full.

This diagram shows the fuel gauge on the van.

Empty   Full

Approximately how many litres of fuel are left in the tank? **Give your answer in whole litres.**

_____ **litres**

(1 mark)

Q15.

A man puts £3 000 into a savings account.

The savings account pays 5% interest per year.

How much will the interest be for the first year?

£ _____

(1 mark)

End of Section 1.

**When you have finished you MUST hand this booklet in to the invigilator
before you can pick up your calculator to start Section 2.**

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Level 1 Functional Skills Mathematics
Sample paper 1

Duration: 1 hour 45 minutes

This is the time permitted for the whole paper which has two sections.
Section 1 is worth 15 marks
Section 2 is worth 45 marks

Section 2 – Calculator

Candidate name (first, last)

First

Last

Candidate enrolment number   Date of birth (DDMMYYYY)

Assessment date (DDMMYYYY)   Centre number   Candidate signature and declaration*

• If you have used any additional answer sheets write the number of additional sheets in this box.
• Please ensure that you **staple** additional answer sheets to the **back** of this booklet,
clearly labelling them with your full name, enrolment number, centre number
and date in BLOCK CAPITALS.
• You must use a black or blue pen. You may use a pencil for charts and diagrams.

***I declare that I had no prior knowledge of the questions in this assessment
and that I will not share information about the questions.**

You should have the following for this assessment
• a pen with black or blue ink
• a pencil
• an eraser
• a 30cm ruler
• a protractor.

**You may use a calculator for Section 2.**

General instructions
• Read through each question carefully.
• Show your working out (where required).
• Write all your working out and answers in this booklet.
• Check your calculations and check that your answers make sense.
• There are additional pages at the back of this booklet if you run out of space or
ask the invigilator if you need additional sheets of paper.

Section 2 – Calculator

There are **45** marks available in this section.

You should check all your work as you go along.

You may use a calculator.
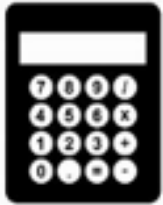
Q1.

Write **eight hundred and seven thousand, two hundred and five** in figures.

_____

(1 mark)

Q2.

What is 2 043.666666 rounded to 2 decimal places?

_____

(1 mark)

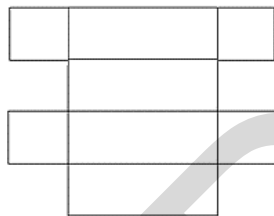**Q3.**

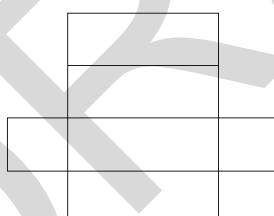Which one of these nets will fold to make a cube?

(tick one box)
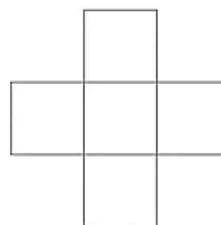
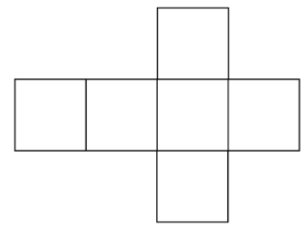A   B   C   D

☐   ☐   ☐   ☐

(1 mark)

Q4.

Which one of these fractions is the **biggest** number?

(tick one box)

A ☐ $\dfrac{4}{10}$

B ☐ $\dfrac{3}{4}$

C ☐ $\dfrac{2}{5}$

D ☐ $\dfrac{1}{3}$

(1 mark)

Q5.

Which one of the following lists is in decreasing order from the largest to the smallest?

(tick one box)

A ☐   252,080   252,300   250,900

B ☐   252,080   250,900   252,300

C ☐   252,300   252,080   250,900

D ☐   252,300   250,900   252,080

(1 mark)

Q6.

A customer wants to buy a sofa. The salesperson says he must pay a deposit.

You can pay 10%, that's £39.90
Or you can pay 20%, that's £49.90

Explain why the salesperson must have made a mistake.

Explanation

(1 mark)

Q7.

A gardener needs to put fertiliser on a piece of land.
The piece of land is a square with sides measuring 8 metres.

This formula shows how many **grams** of fertiliser she needs.

grams of fertiliser needed = length in metres x width in metres x 25

The gardener will measure the fertiliser out in **kilograms**.

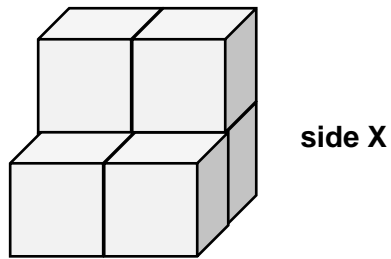What is the weight of fertiliser the gardener needs for the land **in kilograms**?

Show all your working.

Amount of fertiliser _____ kg

(3 marks)

Q8.

A shelf stacker is making a display in a shop. It is made from six identical boxes. Each box is a cube.

side X

Which one of the shapes below is a side view (elevation) of the display from **side X** ?

Shape A

Shape B

Shape C

Shape D
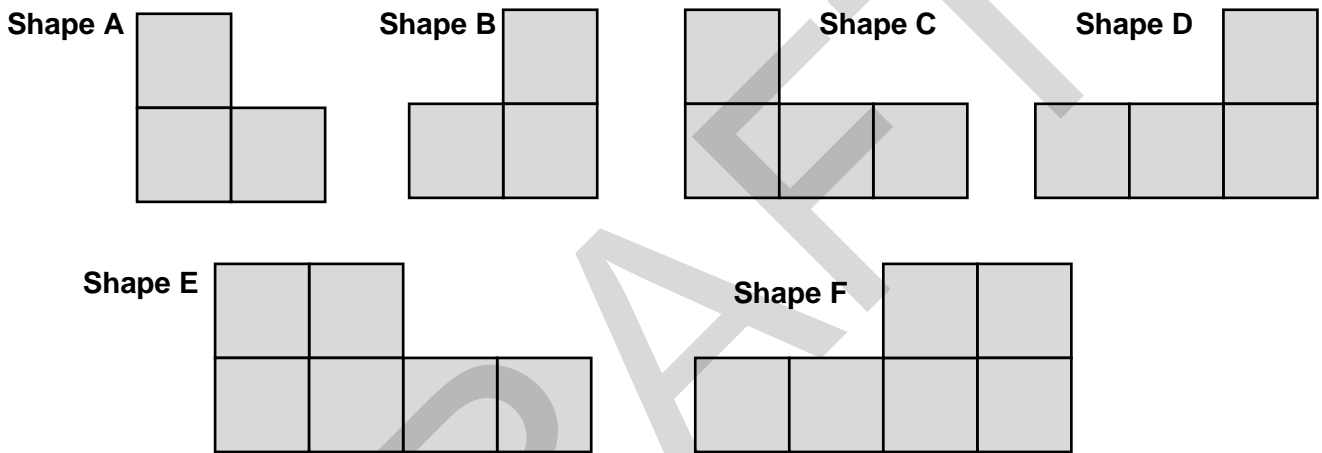
Shape E

Shape F

The side view (elevation) from side X is **Shape _____**

Each box has sides measuring **0.5m**

Work out the area of this side of the display. **Give units in your answer.**

Show all your working.

Area _____

(4 marks)

Q9.

A tourist wants to know how long it will take to walk to a museum.

This map shows the route - - - - from the station to the museum.

Station X

Scale: 1cm represents 100m

X
Museum
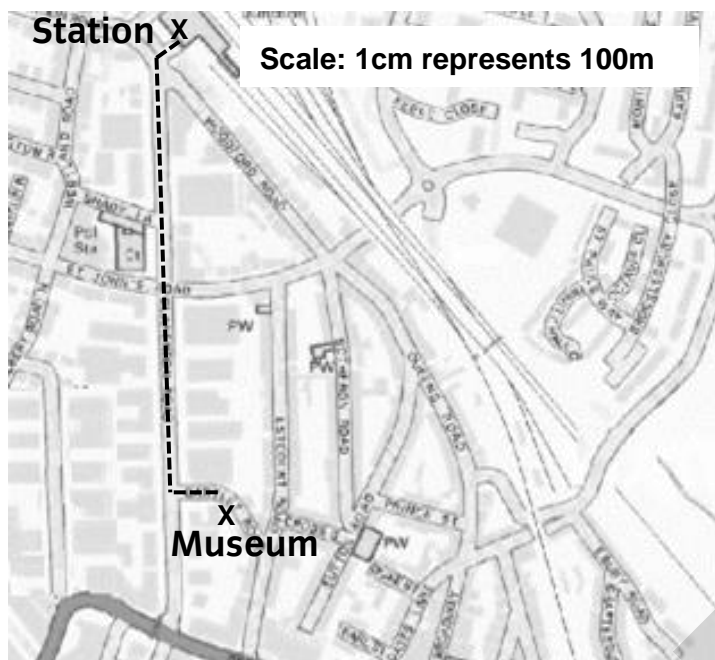
The route measures 6.5cm on the map.

It takes the tourist 10 minutes to walk a kilometre.

How long will it take him to walk to the museum from the station?
Give units in your answer.

Show all your working.

Amount of time to walk _____

(4 marks)

Q10.
A sales rep needs some cardboard boxes to store samples at work.

The office supplier has three different sized boxes.
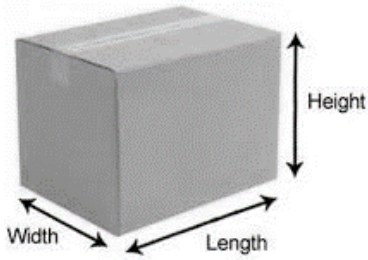
Box	Width	Length	Height
A	35cm	35cm	55cm
B	40cm	40cm	40cm
C	30cm	60cm	30cm

Which box has the largest volume?

Explain your answer. Include figures to support your explanation.

Answer _____

Show all your working.

Explanation

(4 marks)

Q11.
A carpet fitter needs to order some fixing strips to hold the carpet all around the edges of this floor.

2.5m

Not to scale

5.5m

floor

2.0m

7.5m
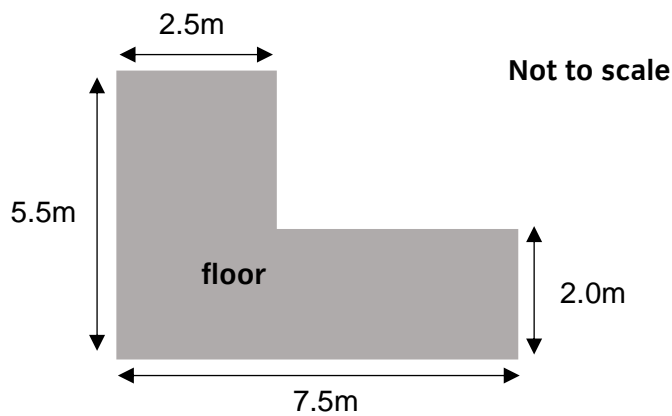
He can cut and join fixing strips.
Each pack has 8 metres of fixing strips.

Work out the number of **packs** of fixing strips he needs to order to go all round this floor.

Show all your working.

Number of packs _____

(4 marks)

Q12.
A doctors' receptionist wants to put up a notice to show patients how long, on average, they will wait to see a doctor.

The table below shows how long past their appointment time patients at the surgery waited to see their doctor yesterday morning.

Minutes waiting (to the nearest minute)		
4	8	6
4	5	3
10	7	5
9	7	4

What was the average (mean) waiting time yesterday morning?

Show all your working.

Average waiting time _____ minutes

Explain why the average for yesterday morning might not be a suitable waiting time to put on the notice.

Explanation

(4 marks)

Q13.

A customer wants to buy a washing machine. He wants to pay monthly. Some shops charge interest to pay monthly.

> **Total amount customers will pay = price of item + total amount of interest**

Two different shops have the washing machine he wants, on pay monthly deals.

In shop A, the price of the washing machine is £450.
The total amount of interest is 15% of the price of the item.

In shop B, the price of the washing machine is £525 with interest-free credit.
The total amount of interest is zero.

Work out in which shop the washing machine will be cheaper for the customer and by how much.

Show all your working.

Shop _____ is cheaper by £ _____

(5 marks)

Q14.

This table shows the number of orders a sales person got in six months.

Month	Number of orders
January	150
February	155
March	170
April	160
May	180
June	200

Draw a line graph to show this information.
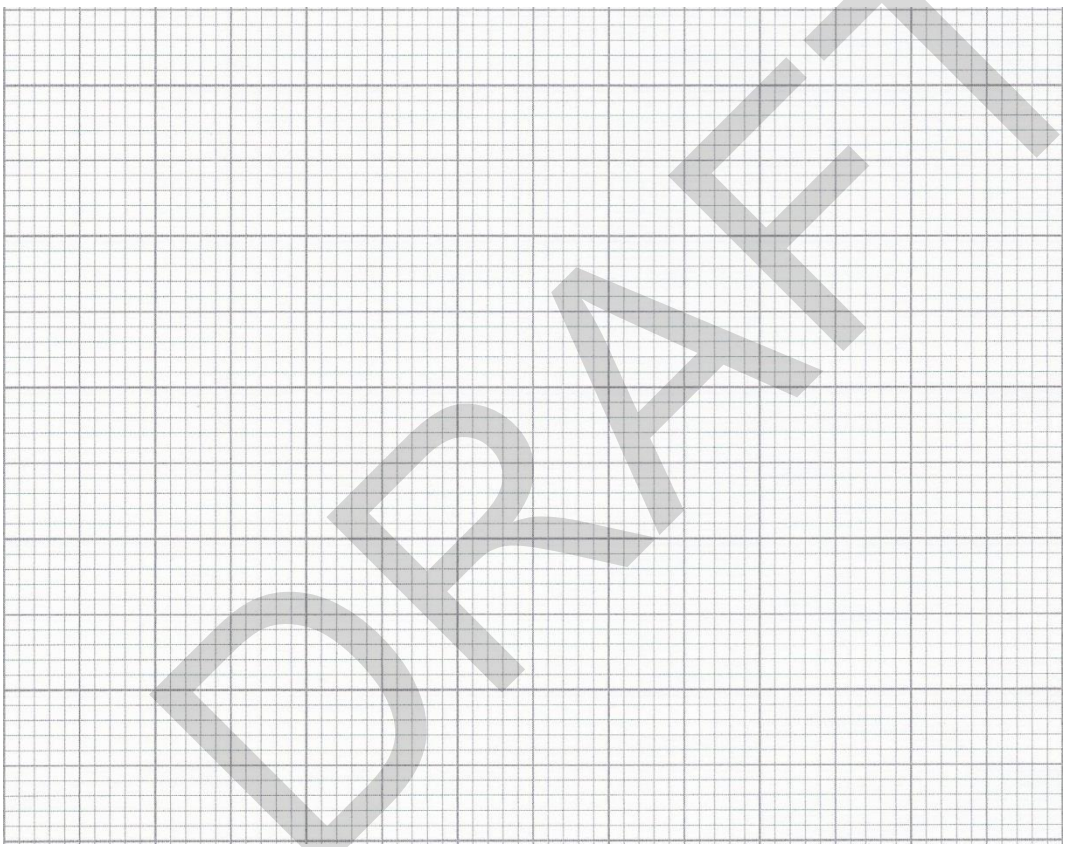
Explain what your graph shows about the number of orders.

Explanation

(5 marks)

Q15.
Your boss needs to go to a meeting in London on Sunday.
He lives a half an hour drive from Stockport station.
He doesn't want to leave home too early.

The meeting starts at 14:00. It is in a hotel a 15-minute walk from the station in London.

This is the train timetable for Sunday.

Sundays						
Manchester	0920	1020	1035	1115	1135	1155
Stockport	0928	1029	1046	1124	1144	1205
Stoke-on-Trent	1000	1100	1115	1152	1214	1235
London	1206	1254	1257	1328	1347	1410

Work out the best train for your boss to catch.

Write down details of the journey from home to the hotel with times clearly for your boss.

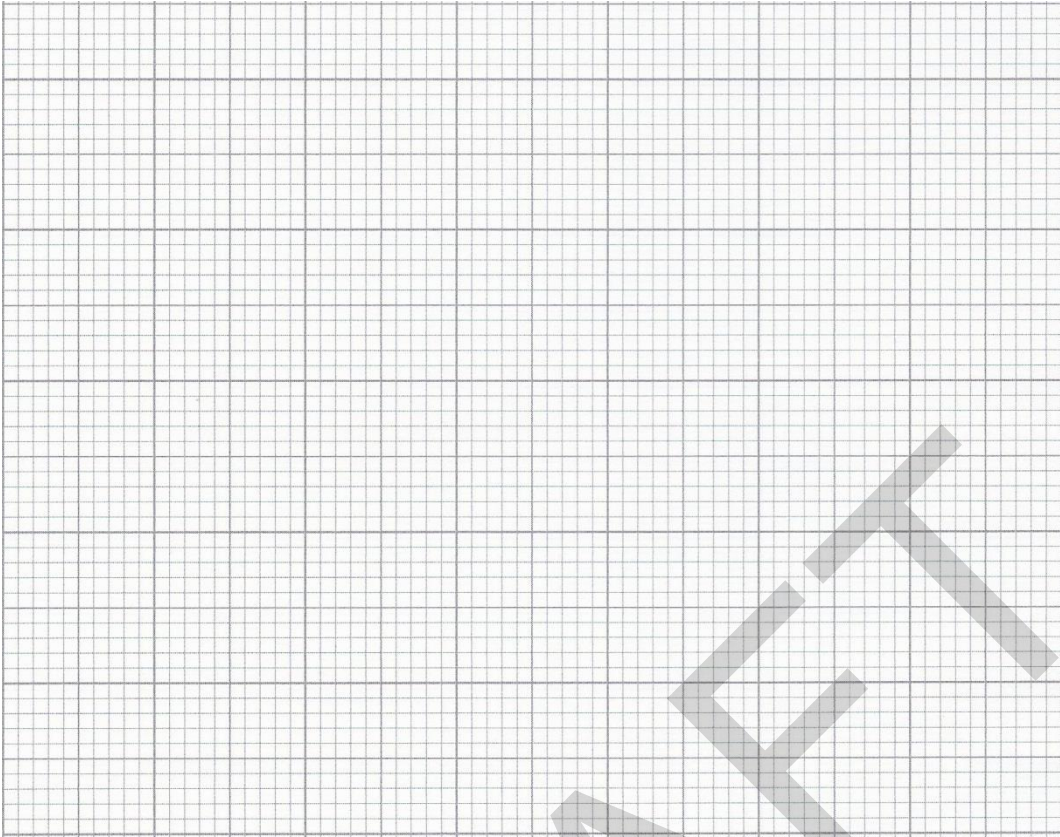Space for working.

Train _____

Journey details

Explain why you chose that train.

Explanation

(6 marks)

End of Section 2

Spare graph paper for Question 14

Extra space for working out and answers

End of assessment

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Level 1 Functional Skills Mathematics
Sample paper 1

Provisional mark scheme.

Guidance notes for Sample Paper Mark Schemes
Level 1

Notes for marking fixed response items:

Unless a whole number is specifically asked for, the markscheme gives credit for whole number answers with .0 or .00 on the end. Even though this is not a desirable level of accuracy, or indeed an expected answer, it is important that with only one mark available a candidate is not penalised for something that is not actually being tested. It is particularly important as, in the unlikely event of a candidate doing this, s/he would probably do it multiple times and lose a disproportionate number of marks.

Notes for marking open response Problem Solving questions in Section 2:

The mark scheme has been carefully constructed to avoid penalising candidates repeatedly for similar errors.

1) The principle of follow through applies throughout unless otherwise stated. This allows the candidates to gain credit for subsequent correct calculation based on a previous incorrect answer. There is no follow-through between questions, but may be in multi-stage calculations within a question.

2) Units or numbers shown in brackets on the mark scheme are not required for the awarding of mark/s on the candidate's paper. However, if a candidate states units they must be correct:
eg 24(cm) means accept 24cm or 24 but not 24m
eg (£)72.5(0) means accept £72.50 or £72.5 or 72.50 or 72.5

3) Correct money format is expected in final answers unless otherwise indicated eg by brackets ie pounds must have two decimal places or no decimal places unless otherwise stated.
eg (£)5.00 or (£)5 not (£)5.0
eg (£)72.50 not (£)72.5
eg (£)37.43 not (£)37.432

4) URT means unrounded, rounded or truncated; the underlining defines the acceptable limit of approximation:
eg 860. *8652* URT (U is the unrounded version)
the following are acceptable: 860 (T) or 861 (R) 860.8 (T) or 860.9 (R) or 860.86 (T) or 860.87 (R) or 860.865 (R) or 860.8652 (U) but not eg 900.

The 3rd and 4th columns of the mark schemes show the marks to be given for specific responses. Marks in bold are for fully correct answers. Where full marks are not achieved, examiners will award the marks that correspond to the responses given in the grey rows below. Any unforeseen but creditable responses are noted during the early stage of marking and are considered and, where appropriate, added to the mark scheme by the Chief Examiner when the mark scheme is finalised.

Where the marks are awarded for a *complete correct method with one calculation error*, examiners give the mark for a substantially correct solution with a single accuracy error or single (or consistent) early rounding, but not with a method error.

Maths Level 1 Sample paper 1: Section 1 – Non-calculator			
For paper-based, examiners should accept correct answers given as words, including misspelt variants. Candidates must not lose marks for incorrect spelling.			
Question	Total marks	Marks	Marks awarded for
1	1	1	10 or 10.0 or 10.00
2	1	1	625 or 625.0 or 625.00
3	1	1	.4 or 0.4 or .40 or 0.40 or .400 or 0.400
4	1	1	A
5	1	1	C
6	1	1	85 or 85.0 or 85.00
7	1	1	90 or 90.0 or 90.00
8	1	1	D
9	1	1	1000 or 1,000 or 1 000
10	1	1	27
11	1	1	13.50 accept 13.5 or 13.500
12	1	1	120 or 120.0 or 120.00
13	1	1	$\frac{1}{5}$
14	1	1	15 or 16 accept 15.0 or 15.00 or 16.0 or 16.00
15	1	1	150 or 150.00 accept 150.0
			Total for Section 1 15 marks

Maths Level 1 Sample paper 1: Section 2 – Calculator			
For paper-based, examiners should accept correct answers given as words, including misspelt variants. Candidates must not lose marks for incorrect spelling.			
Question	**Total marks**	**Marks**	**Marks awarded for**
1	**1**	**1**	**807205 or 807,205 or 807 205**
2	**1**	**1**	**2043.67 or 2,043.67 or 2 043.67 or 2,043.67**
3	**1**	**1**	**D**
4	**1**	**1**	**B**
5	**1**	**1**	**C**
6	**1**	**1**	**explanation referring to a relationship between 10% and 20% eg 20% should be double 10% amount or vice versa**
7	**3**	**3**	**1.6(kg)**
		2	1600(g) for weight in grams from formula
		1	correct substitution into the formula **or** ÷1000 for conversion of g to kg
8	**4**	**1**	**B for correct elevation**
		2	**correct area for their elevation ie 0.75(m^2) or 1(m^2) or 1.0(m^2) 1.5(m^2) or 7500(cm^2) or 10000(cm^2) or 15000(cm^2)**
		1	0.25(m^2) or 2500(cm^2) for area of side of 1 cube **or** a complete correct method with one calculation error
		1	**m^2 or cm^2 corresponding with their answer**
9	**4**	**4**	**6.5 minutes or 6½ minutes or 6 minutes 30 seconds, with units**
		3	6.5 or 6½ without units for time to walk **or** a correct method for calculating the time needed for their distance eg 0.65 x 10
		2	650m **or** 0.65km for actual distance **or** 1 minute per 100m for time needed
		1	a correct method for scaling up eg x100
10	**4**	**4**	**Box A AND comparative comment including correct volumes for all three boxes A 67375 (cm^3) B 64000 (cm^3) C 54000 (cm^3)**
		3	three correct volumes, but incorrect or no decision
		2	one volume correct
		1	correct method for finding volume
11	**4**	**4**	**4 packs needed**
		3	3.2_5_ URT(packs) **or** a complete correct method to whole number of packs with a calculation error
		2	**26(m)** for perimeter
		1	3.5(m) **and** 5.0(m) or 5(m) seen for missing dimensions **or** ÷8 for conversion of length needed to packs
12	**4**	**3**	**6 (minutes)**
		2	complete correct method with one calculation error seen
		1	72 for total minutes **or** ÷12 seen
		1	**valid explanation eg 'yesterday may not have been a typical day' or 'the average time should be based on more patients'**
13	**5**	**5**	**Shop A AND (£)7.50**

		4	(£)7.50 **or** Shop A and (£)7.5
		3	(£)517.5(0) for the total cost in shop A **or** (£)75 for difference in price **and** (£)67.5(0) **or** a complete correct method to find difference with a calculation error
		2	(£)67.5(0) for interest seen for shop A
		1	a correct method for finding 15% eg x15 ÷100 or x.15 or 10% and half of 10% **or** substitution of their amounts into the formula
14	5	1	**suitable axes and scale to plot all the data**
		1	**suitable title and labels eg *Jan, Feb* etc and *Number of orders* Note: consider labelling as a whole, eg title may be used to clarify vertical axis label**
		2	**6 plots correct ±1 small square (onscreen) / ±½ small square (paper) AND line joining them**
		1	6 plots correct without a line joining them or at least 4 plots correct ±1 small square (onscreen) / ±½ small square (paper) AND line joining them
		1	**valid comment about pattern of sales eg *Sales went up every month apart from April* or *Sales are (generally) increasing***

15	6	3	**choice of 1124 or 1046 trains with corresponding departure time from home and arrival at hotel**
			  Home 1054 1016
			  Stockport 1124 1046
			  London 1328 1257
			  Hotel 1343 1312
			NOTE: Accept slightly earlier departure time from home, if justified

		2	Choice of one of above with one calculation error in time of departure from home or arrival at hotel
			or choice of 1029 train with corresponding departure and arrival times
			  Home 0959 (accept 1000) 0858 (accept 0900)
			  Stockport 1029 0928
			  London 1254 1206
			  Hotel 1309 1221
			or choice of 1144 train with corresponding departure and arrival times if justified
			  Home 1114
			  Stockport 1144
			  London 1347
			  Hotel 1402
			NOTE: Accept slightly earlier departure time from home, if justified

		1	a suitable train selected (1124 or 1046) **or** departure time 30 minutes before **and** arrival time at hotel 15 minutes after incorrect train
		2	**times for departure, chosen trains and arrival at hotel clearly set out to convey the information to the boss in a table, structured list or other clear presentation**
		1	all information listed but not in a structured/clear presentation **or** a clear presentation of the information with one error or omission (eg of time to depart home) Train departure time from Stockport must be included for this mark.
		1	**valid reason for choice of train, eg 'it is the latest train that will get him there on time' or 'This train doesn't leave too early, but it gives him another one afterwards that will get him there in time if he misses the train'**
			Total for Section 2 45 marks

Example graph for Section 2 Question 14